

State of California
The Resources Agency
DEPARTMENT OF FISH AND GAME

MARINE RECREATIONAL FISHERIES STATISTICS SURVEY
FOR NORTHERN AND CENTRAL CALIFORNIA,
QUARTERLY REPORT NO. 21,
JULY TO SEPTEMBER 1984

by

Konstantin A. Karpov

MARINE RESOURCES

Administrative Report No. 87-5

1987

Errata - Quarterly Report No. 21, July to September 1984
Administrative Report No. 87-5

Table 25. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	146
Total Hours Effort for Anglers Intercepted	=	381.5
Total Hours Still to Fish (Incomplete Trips)	=	7.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Black	1	20	15.0
Surfperches	2	14	10.5
Rockfish, Blue	3	13	9.8
Greenlings (general)	4	13	9.8
Rockfish, Canary	5	8	6.0
Rockfish, Copper	6	7	5.3
Greenling, Rock	7	7	5.3
Seaperch, White	8	6	4.5
Rockfish, Brown	9	5	3.8
Rockfish, China	10	5	3.8
Greenling, Kelp	11	5	3.8
Lingcod	12	4	3.0
Cabazon	13	4	3.0
Rockfish, Kelp	14	3	2.3
Seaperch, Sharpnose	15	3	2.3
Surfperch, Redtail	16	3	2.3
Surfperch, Silver	17	2	1.5
Unidentified Fishes	18	1	0.8
Shark, Leopard	19	1	0.8
Jacksmelt	20	1	0.8
Rockfish, Rosy	21	1	0.8
Rockfish, Yelloweye	22	1	0.8
Rockfish, Speckled	23	1	0.8
Rockfish, Olive	24	1	0.8
Perch, Kelp	25	1	0.8
Seaperch, Striped	26	1	0.8

(Table 25. - continued)

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Calico	27	1	0.8
Flounder, Starry	28	1	0.8
Total		133	100

C. CPUE

Catch per Angler Day = 0.91 Catch per Angler Hour = 0.35

Table 26. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	146
Total Hours Effort for Anglers Intercepted	=	381.5
Total Hours Still to Fish (Incomplete Trips)	=	7.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Black	1	20	16.4	0.93	18.50
Rockfish, Blue	2	13	10.7	0.45	5.79
Greenlings (general)	3	11	9.0	0.36**	3.96
Rockfish, Canary	4	8	6.6	0.55	4.40
Surfperches	5	8	6.6	0.20**	1.60
Rockfish, Copper	6	7	5.7	1.50	10.50
Greenling, Rock	7	7	5.7	0.34	2.40
Seaperch, White	8	6	4.9	0.20	1.20
Rockfish, Brown	9	5	4.1	0.74	3.70
Rockfish, China	10	5	4.1	0.64	3.20
Greenling, Kelp	11	5	4.1	0.38	1.88
Lingcod	12	4	3.3	2.52	10.10
Cabezon	13	4	3.3	1.08	4.30
Rockfish, Kelp	14	3	2.5	0.53	1.60
Seaperch, Sharpnose	15	3	2.5	0.10	0.30
Surfperch, Silver	16	2	1.6	0.13	0.26
Surfperch, Redtail	17	2	1.6	0.40	0.80
Shark, Leopard	18	1	0.8	5.70	5.70
Rockfish, Rosy	19	1	0.8	0.40	0.40
Rockfish, Yelloweye	20	1	0.8	4.00	4.00
Rockfish, Speckled	21	1	0.8	0.20	0.20
Rockfish, Olive	22	1	0.8	0.40	0.40
Perch, Kelp	23	1	0.8	0.00**	0.00
Seaperch, Striped	24	1	0.8	0.24	0.24
Surfperch, Calico	25	1	0.8	0.14	0.14
Flounder, Starry	26	1	0.8	2.80	2.80

(Table 25. - continued)

Common name	Rank by Number	Number Caught	% by Number	Mean Wt.(kg)*	Weight Caught
<hr/>					
Total		122	100		88.37

C. CPUE

Catch per Angler Day = 0.84 Catch per Angler Hour = 0.32
 Kg per Angler Day = 0.61 Kg per Angler Hour = 0.23

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 27. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 146
 Total Hours Effort for Anglers Intercepted = 381.5
 Total Hours Still to Fish (Incomplete Trips) = 7.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	Wt.* (kg)	Ln.** (mm)	SD LN.
Rockfish, Black	1	18.50	20	21.1	20	0.93	381	77
Rockfish, Copper	2	9.00	6	6.3	6	1.50	425	64
Shark, Leopard	3	5.70	1	1.1	1	5.70	852	0
Rockfish, Blue	4	4.90	11	11.6	11	0.45	305	46
Cabazon	5	4.30	4	4.2	4	1.08	396	73
Rockfish, Yelloweye	6	4.00	1	1.1	1	4.00	598	0
Rockfish, Brown	7	3.70	5	5.3	5	0.74	347	32
Rockfish, Canary	8	3.30	6	6.3	6	0.55	325	58
Rockfish, China	9	3.20	5	5.3	5	0.64	323	47
Flounder, Starry	10	2.80	1	1.1	1	2.80	582	0
Lingcod	11	2.52	1	1.1	1	2.52	615	0
Greenling, Rock	12	2.40	7	7.4	7	0.34	285	31
Greenling, Kelp	13	1.88	5	5.3	5	0.38	282	81
Rockfish, Kelp	14	1.60	3	3.2	3	0.53	328	31
Seaperch, White	15	1.20	6	6.3	6	0.20	251	15
Surfperch, Redtail	16	0.80	2	2.1	2	0.40	285	65
Rockfish, Rosy	17	0.40	1	1.1	1	0.40	292	0
Rockfish, Olive	18	0.40	1	1.1	1	0.40	320	0
Seaperch, Sharpnose	19	0.30	3	3.2	3	0.10	200	6
Surfperch, Silver	20	0.26	2	2.1	2	0.13	203	13
Seaperch, Striped	21	0.24	1	1.1	1	0.24	244	0
Rockfish, Speckled	22	0.20	1	1.1	1	0.20	248	0
Surfperch, Calico	23	0.14	1	1.1	1	0.14	206	0
Perch, Kelp	24	0.00	1	1.1	1	0.00	270	0
Total		71.75	95	100	95			

C. CPUE***

Catch per Angler Day = 0.65 Catch per Angler Hour = 0.25
 Kg per Angler Day = 0.49 Kg per Angler Hour = 0.19

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 28. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	64
Total Hours Effort for Anglers Intercepted	=	115.0
Total Hours Still to Fish (Incomplete Trips)	=	4.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Smelt, Surf	1	6654	99.0
Smelt, Night	2	64	1.0
Lingcod	3	1	0.0
Total		6719	100

C. CPUE

Catch per Angler Day = 104.98 Catch per Angler Hour = 58.43

Table 29. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 64
 Total Hours Effort for Anglers Intercepted = 115.0
 Total Hours Still to Fish (Incomplete Trips) = 4.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Smelt, Surf	1	6654	99.0	0.03	212.69
Smelt, Night	2	64	1.0	0.01	0.56
Lingcod	3	1	0.0	2.70	2.70
Total		6719	100		215.96

C. CPUE

Catch per Angler Day = 104.98 Catch per Angler Hour = 58.43
 Kg per Angler Day = 3.37 Kg per Angler Hour = 1.88

* Weight estimated from length-to-weight regression if available.

Table 30. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 64
 Total Hours Effort for Anglers Intercepted = 115.0
 Total Hours Still to Fish (Incomplete Trips) = 4.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	!---Mean---!		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Smelt, Surf	1	185.78	5812	98.9	285	0.03	171	7
Lingcod	2	2.70	1	0.0	1	2.70	628	0
Smelt, Night	3	0.56	64	1.1	10	0.01	118	5
Total		189.04	5877	100	296			

C. CPUE***

Catch per Angler Day = 91.83 Catch per Angler Hour = 51.10
 Kg per Angler Day = 2.95 Kg per Angler Hour = 1.64

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Figure 4. Length-Frequency Histogram for Surf Smelt
Taken by Beach and Bank Anglers Using Shore Net Gear.
Area 2, Quarter 3, 1984.

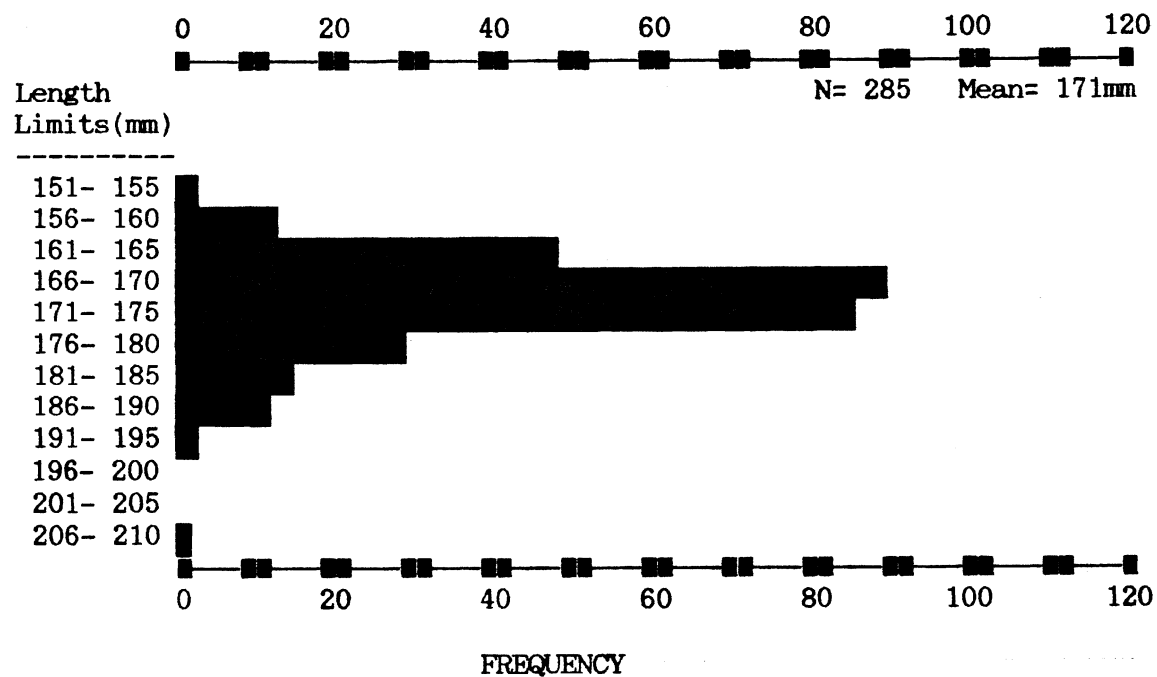


Table 52. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 93
 Total Hours Effort for Anglers Intercepted = 253.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperches	1	15	37.5
Croaker, White	2	7	17.5
Anchovy, Northern	3	5	12.5
Surfperch, Walleye	4	3	7.5
Sculpin, Pacific Staghorn	5	2	5.0
Cabezon	6	2	5.0
Surfperch, Silver	7	2	5.0
Shark, Leopard	8	1	2.5
Surfperch, Barred	9	1	2.5
Surfperch, Calico	10	1	2.5
Halibut, California	11	1	2.5
Total		40	100

C. CPUE

Catch per Angler Day = 0.43 Catch per Angler Hour = 0.16

Table 53. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted	=	93
Total Hours Effort for Anglers Intercepted	=	253.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Walleye	1	3	25.0	0.16	0.48
Surfperch, Silver	2	2	16.7	0.08	0.17
Shark, Leopard	3	1	8.3	4.80	4.80
Cabazon	4	1	8.3	0.30	0.30
Croaker, White	5	1	8.3	0.10	0.10
Surfperches	6	1	8.3	0.19**	0.19
Surfperch, Barred	7	1	8.3	0.40	0.40
Surfperch, Calico	8	1	8.3	0.30	0.30
Halibut, California	9	1	8.3	0.60	0.60
Total		12	100		7.34

C. CPUE

Catch per Angler Day	=	0.13	Catch per Angler Hour	=	0.05
Kg per Angler Day	=	0.08	Kg per Angler Hour	=	0.03

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 54. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 93
 Total Hours Effort for Anglers Intercepted = 253.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Shark, Leopard	1	4.80	1	10.0	1	4.80	800	0
Halibut, California	2	0.60	1	10.0	1	0.60	384	0
Surfperch, Barred	3	0.40	1	10.0	1	0.40	265	0
Surfperch, Walleye	4	0.32	2	20.0	2	0.16	211	25
Cabezon	5	0.30	1	10.0	1	0.30	252	0
Surfperch, Calico	6	0.30	1	10.0	1	0.30	273	0
Surfperch, Silver	7	0.17	2	20.0	2	0.08	177	1
Croaker, White	8	0.10	1	10.0	1	0.10	208	0
Total		6.99	10	100	10			

C. CPUE***

Catch per Angler Day = 0.11 Catch per Angler Hour = 0.04
 Kg per Angler Day = 0.08 Kg per Angler Hour = 0.03

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 55. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	18
Total Hours Effort for Anglers Intercepted	=	51.5
Total Hours Still to Fish (Incomplete Trips)	=	0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Smelt, Surf	1	378	%100.0
Total		378	100

C. CPUE

Catch per Angler Day	=	21.00	Catch per Angler Hour	=	7.34
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Table 56. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 18
 Total Hours Effort for Anglers Intercepted = 51.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Smelt, Surf	1	378	%100.0	0.03	11.39
Total		378	100		11.39

C. CPUE

Catch per Angler Day = 21.00 Catch per Angler Hour = 7.34
 Kg per Angler Day = 0.63 Kg per Angler Hour = 0.22

* Weight estimated from length-to-weight regression if available.

Table 57. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 18
 Total Hours Effort for Anglers Intercepted = 51.5
 Total Hours Still to Fish (Incomplete Trips) = 0.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Smelt, Surf	1	11.39	378	%100.0	56	0.03	168	7
Total		11.39	378	100	56			

C. CPUE***

Catch per Angler Day = 21.00 Catch per Angler Hour = 7.34
 Kg per Angler Day = 0.63 Kg per Angler Hour = 0.22

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Figure 5b. Length-Frequency Histogram for Surf Smelt
 Taken by Beach and Bank Anglers Using Shore Net Gear.
 Area 3 (Ocean), Quarter 3, 1984.

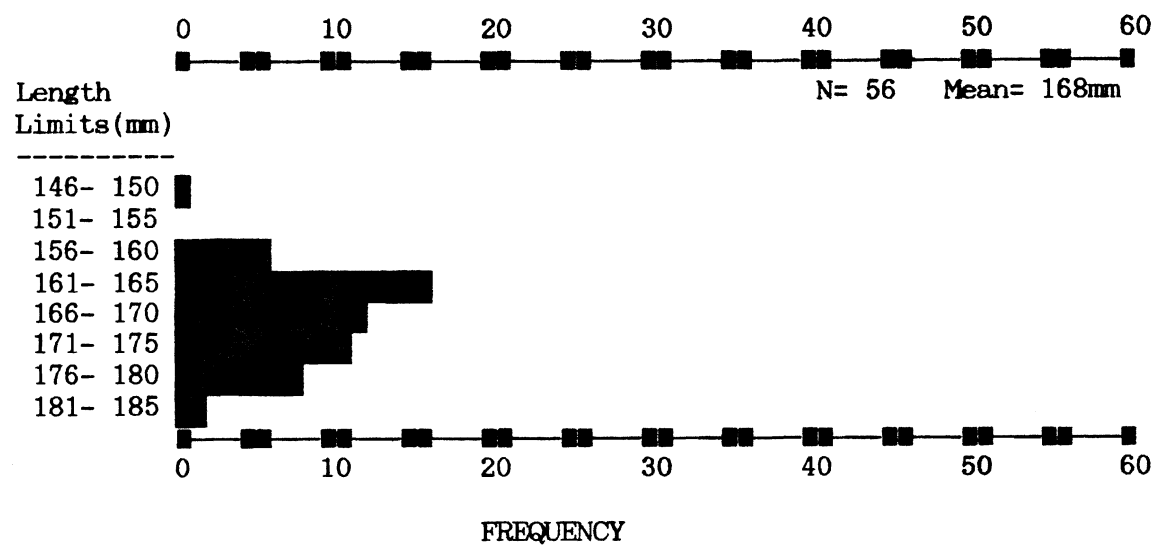


Table 157. Length-Frequency Data and Statistics for Surf Smelt.
 Taken by Beach and Bank Anglers Using Shore Net Gear.
 Area 2, Quarter 3, 1984.

Length(mm)*	N	Mean	St.Dev.	Sum Lengths	Sum of Squar.	Range
	285	171	7.5	48775	8363313	153- 206

Limits(mm)	Fq.	%Fq.	:	Limits(mm)	Fq.	%Fq.	:	Limits(mm)	Fq.	%Fq.	:
151- 155	1	0.4	:	156- 160	11	3.9	:	161- 165	48	16.8	:
166- 170	87	30.5	:	171- 175	83	29.1	:	176- 180	27	9.5	:
181- 185	13	4.6	:	186- 190	12	4.2	:	191- 195	1	0.4	:
196- 200	0	0.0	:	201- 205	0	0.0	:	206- 210	2	0.7	:
Total											285 100%

* Total length except for species with tuna-like caudal fin (see text).

Table 190. Length-Frequency Data and Statistics for Surf Smelt.
 Taken by Beach and Bank Anglers Using Shore Net Gear.
 Area 3 (Ocean), Quarter 3, 1984.

Length(mm)*	N	Mean	St.Dev.	Sum Lengths	Sum of Squar.	Range
	56	168	7.2	9414	1585434	148- 185

Limits(mm)	Fq.	%Fq.	Limits(mm)	Fq.	%Fq.	Limits(mm)	Fq.	%Fq.
146- 150	1	1.8	151- 155	0	0.0	156- 160	6	10.7
161- 165	16	28.6	166- 170	12	21.4	171- 175	11	19.6
176- 180	8	14.3	181- 185	2	3.6	186- 190	0	0.0
Total							56	100%

* Total length except for species with tuna-like caudal fin (see text).

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Konstantin A. Karpov 2/

ABSTRACT

Field intercept Marine Recreational Fisheries Statistics Survey (MRFSS) data for central and northern California, collected in July to September of 1984, is presented in a data report format. Data in this quarterly report are subdivided into three categories: primarily by five geographical areas; secondarily by fishing modes and gear types within each area; and finally by catch definition for each area, mode, and gear type. Tables are presented for these categories, each with three sections: sampled effort, ranked catch, and catch-per-unit-effort (CPUE). Also, within each area, length-frequency histograms and tables are presented for select species.

1/ Marine Resources Administrative Report No 87- .

2/ Marine Resources Division, 19160 So. Harbor Drive, Fort Bragg, CA 95437.

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INTRODUCTION

The California Department of Fish and Game under contract to the National Marine Fisheries Service (NMFS) has participated in the Marine Recreational Fisheries Statistics Survey (MRFSS) from mid 1979 to the present. The survey was initiated to gather catch and effort statistics for marine recreational fisheries along the Pacific west coast.

Annual summaries of these statistics have already been published on a regional basis (Current Fisheries Statistics Numbers 8321, 8323, and 8325). In these summaries, California's data is divided into two regions: Del Norte to San Luis Obispo Counties (north-central region), and Santa Barbara to San Diego Counties (southern region).

This Quarterly Report No. 21 covers the period of July through September 1984. It supplements the federal annual summary for only the north-central region of California (Del Norte to San Luis Obispo Counties). This region is divided into five areas (subregions) corresponding to historical ports.

METHODS

Catch and length data were collected by Department biologists intercepting anglers actively fishing or in the process of leaving a fishing site. Sampling methodology is described in part in Current Fisheries Statistics (8321, 8323, and 8325).

Data in this quarterly report are subdivided into three categories: primarily by five geographical areas; secondarily by fishing modes and gear types within each area; and finally by catch definition for each area, mode, and gear

type. Tables are presented for these categories, each with three sections: sampled effort, ranked catch, and catch-per-unit-effort (CPUE). Also, within each area, length-frequency histograms and tables are presented for select species.

Study Areas

Study areas range in size from one county in Area 5 to six counties in Area 3 (Figure 1). Adjacent counties are combined whenever similarity of habitat and species composition warrants. Boat modes are segregated by county only if separate grounds were fished (i.e. Sonoma County Bodega Bay fishery, sub-area 097, from Mendocino County, sub-area 045).

Area 1, including Del Norte and Humboldt counties, extends from the Oregon border to Shelter Cove. Both counties are combined in all mode comparisons. Area 2 contains Mendocino County and that part of Sonoma County which is north of Bodega Bay. Both counties are combined for all modes except the boat modes (private/rental boat and CPFV). The San Francisco Area 3 is segregated into ocean and bay. This area includes anglers from six counties; Marin, Solano, Contra Costa, Alameda, San Francisco, and San Mateo. These counties encircle the bay and extend down to Ano Nuevo. Two sets of tables and figures were generated based on whether anglers specified having fished in the ocean or the bay. Bay anglers were predominantly from San Francisco Bay, but also included a small percentage of Halfmoon Bay anglers. Area 4 includes Santa Cruz County and that part of Monterey County which is north of Ragged Point. Area 5, San Luis Obispo County, extends down to Point Sal.

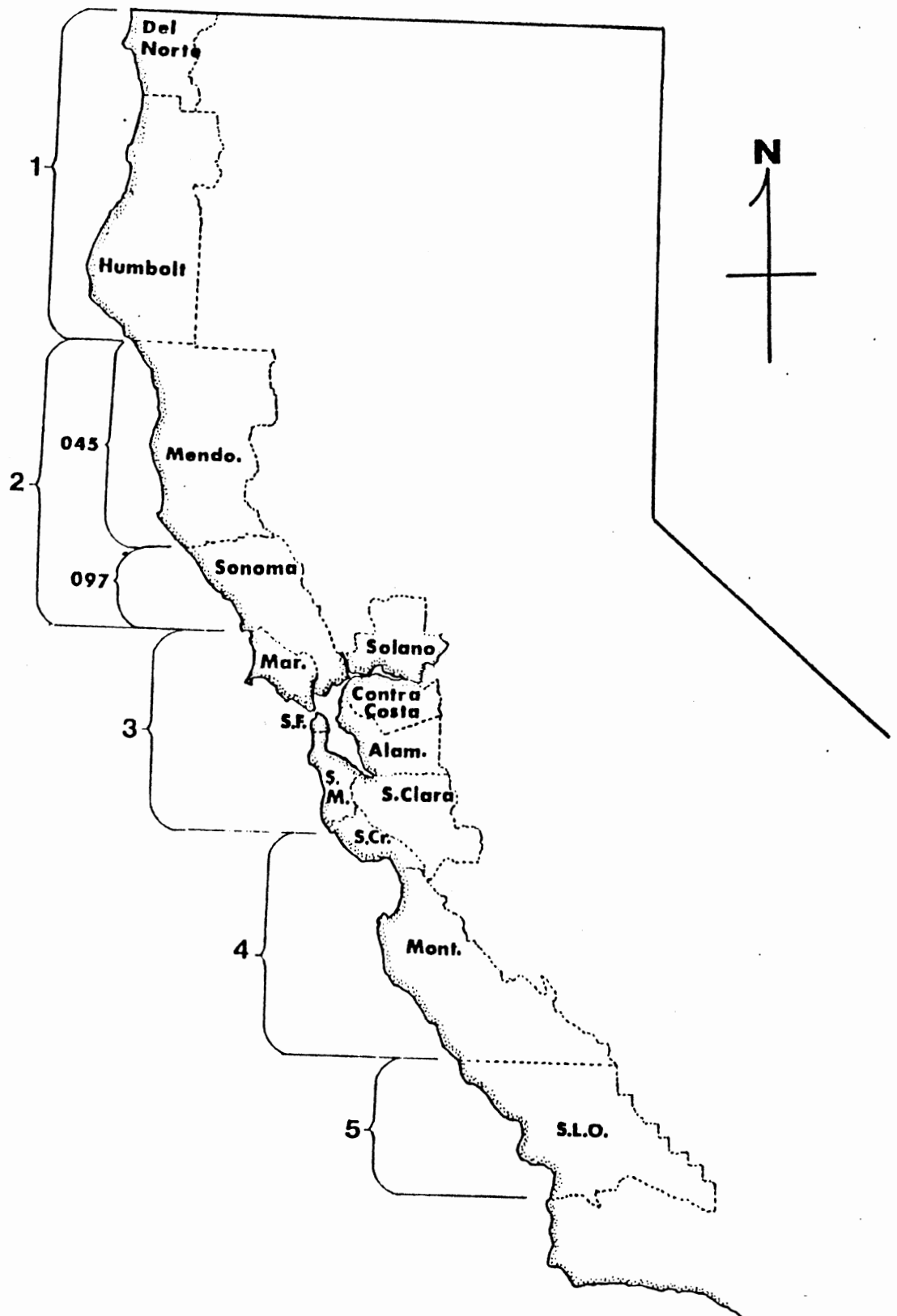


FIGURE 1. Study area counties and sub-areas in northern and central California.

Fishing Modes

Modes of fishing were organized into six categories: (i) pier or dock, (ii) jetty or breakwater, (iii) bridge or causeway, (iv) beach or bank, (v) private or rental boat, and (vi) commercial passenger fishing vessel (CPFV).

Gear Types

Three types of gear were used: (i) hook-and-line, (ii) spear, or (iii) net. Spears were used only by divers. Dipnet and castnet were the only net gears in active use in northern and central California.

Catch Definitions

Catch is defined three different ways: (i) all fish captured, including fish returned dead or alive, those not available at the sampling site (i.e. filleted or given away, etc.), and those available to measure; (ii) landed catch, not including fish returned dead or alive; and, (iii) the measured catch only. Fish caught but unavailable to measure were identified to the nearest taxa using the angler's description.

Computer-Generated Tables and Figures

The Microcomputer Program Series (MPS) was developed to generate the tables and figures used in this report. The programs were designed for flexibility and ease of use on area microcomputers. The programs allow the user to generate tables and figures for any combination of area, mode, gear, or definition of catch. Data generated by these programs include: sampled effort, ranked catch, CPUE, and length-frequency data. Documentation of logic and program listings are available (Karpov, 1984).

Sampled Effort

Sampled effort is the same for all three catch definitions for a particular area, mode, or gear. It includes the number of anglers intercepted and the total hours fishing effort.

Ranked Catch

Ranked catch includes rank of species caught by number or weight, and other statistics depending on the catch definition. Fish are ranked by number caught in two of the catch definitions: all fish caught, and landed catch. The measured catch has fish ranked by weight caught. The measured catch tables include average lengths and standard deviation, and derived average weight.

CPUE

CPUE is calculated using two definitions of both "catch" and "effort". Catch is either number or weight (kilograms) caught. Effort is either angler days or total hours fished. CPUE, computed using weight caught as opposed to number landed, are included only for two of the catch definitions: landed catch and measured catch. Average weights incorporated in the landed catch tables are derived either from the respective measured catch table for the same species or, for the more general species groups, by calculating a group average weight. Group average weights of constituent species were calculated from this quarter's data for the same mode, gear, and area. Angler days represent completed fishing days for most areas and modes. Occasional incomplete trips were included for all modes except boat modes.

Length-Frequency Data

Length-frequency histograms and tables were generated for select species. Histograms are included for highly abundant species where at least 10 measured fish occurred in the most frequent size interval. Histograms were summarized in either 5-, 10-, or 20-mm intervals. The criteria for assigning summary intervals was based on the largest recorded size for the species as reported in Miller and Lea (1972). Fish reported from 0 to 12 inches used 5-mm, greater than 12 to 24 inches used 10-mm and greater than 24 inches were assigned 20-mm intervals.

Length-frequency tables (see Appendix A) were generated for all species with at least five measured fish for any given area, mode, and gear. Tables were summarized in 5-mm intervals and include length statistics for possible use in ANOVA computations (Sokal and Rohlf, 1969).

Species Names and Length-Weight Parameters

Total length was recorded for all species except tuna-like fishes with rigid concave caudal fins; for these fork lengths were used. Weights were not actually measured; rather, they were determined, for all major species taken, from precalculated length-weight relationships. The exponential relationship used was $W=aL^b$; where a and b are constants unique to each species (Appendix B).

Scientific and common names used were standardized using the American Fisheries Society list (1980).

Table 1. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 90
 Total Hours Effort for Anglers Intercepted = 226.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Perch, Shiner	1	100	25.4
Anchovy, Northern	2	96	24.4
Surfperch, Walleye	3	86	21.8
Sculpin, Pacific Staghorn	4	82	20.8
Jacksmelt	5	14	3.6
Seaperch, White	6	5	1.3
Rockfish, Brown	7	3	0.8
Rockfish, Black	8	2	0.5
Shark, Leopard	9	1	0.3
Rockfish, Grass	10	1	0.3
Greenling, Kelp	11	1	0.3
Lingcod	12	1	0.3
Surfperch, Silver	13	1	0.3
Mackerel, Pacific (Chub)	14	1	0.3
Total		394	100

C. CPUE

Catch per Angler Day = 4.38 Catch per Angler Hour = 1.74

Table 2. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 90
 Total Hours Effort for Anglers Intercepted = 226.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Anchovy, Northern	1	87	32.0	0.01	0.89
Surfperch, Walleye	2	78	28.7	0.12	9.70
Perch, Shiner	3	55	20.2	0.03	1.77
Sculpin, Pacific Staghorn	4	25	9.2	0.03	0.81
Jacksmelt	5	14	5.1	0.09	1.24
Seaperch, White	6	5	1.8	0.22	1.09
Rockfish, Black	7	2	0.7	0.04	0.07
Shark, Leopard	8	1	0.4	0.00**	0.00
Rockfish, Brown	9	1	0.4	0.03	0.03
Rockfish, Grass	10	1	0.4	0.08	0.08
Greenling, Kelp	11	1	0.4	0.60	0.60
Surfperch, Silver	12	1	0.4	0.14	0.14
Mackerel, Pacific (Chub)	13	1	0.4	0.01	0.01
Total		272	100		16.44

C. CPUE

Catch per Angler Day = 3.02 Catch per Angler Hour = 1.20
 Kg per Angler Day = 0.18 Kg per Angler Hour = 0.07

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 3. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 90
 Total Hours Effort for Anglers Intercepted = 226.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Walleye	1	7.96	64	28.7	65	0.12	191	34
Perch, Shiner	2	1.61	50	22.4	22	0.03	134	11
Jacksmelt	3	1.24	14	6.3	14	0.09	224	51
Seaperch, White	4	1.09	5	2.2	5	0.22	253	55
Sculpin, Pacific Staghorn	5	0.68	21	9.4	19	0.03	141	26
Anchovy, Northern	6	0.63	62	27.8	21	0.01	125	9
Greenling, Kelp	7	0.60	1	0.4	1	0.60	355	0
Surfperch, Silver	8	0.14	1	0.4	1	0.14	207	0
Rockfish, Grass	9	0.08	1	0.4	1	0.08	162	0
Rockfish, Black	10	0.07	2	0.9	2	0.04	132	10
Rockfish, Brown	11	0.03	1	0.4	1	0.03	121	0
Mackerel, Pacific (Chub)	12	0.01	1	0.4	1	0.01	115	0
Total		14.15	223	100	153			

C. CPUE***

Catch per Angler Day = 2.48 Catch per Angler Hour = 0.98
 Kg per Angler Day = 0.16 Kg per Angler Hour = 0.06

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 4. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 286
 Total Hours Effort for Anglers Intercepted = 839.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Black	1	63	32.0
Greenling, Kelp	2	59	29.9
Rockfish, Grass	3	16	8.1
Cabazon	4	11	5.6
Rockfish, Copper	5	8	4.1
Greenling, Rock	6	7	3.6
Rockfish, Brown	7	6	3.0
Lingcod	8	6	3.0
Surfperch, Redtail	9	5	2.5
Salmon, Chinook (King)	10	4	2.0
Surfperch, Walleye	11	4	2.0
Smelt, Surf	12	3	1.5
Smoothhound, Brown	13	1	0.5
Rockfish, Blue	14	1	0.5
Sculpin, Buffalo	15	1	0.5
Irish Lord, Brown	16	1	0.5
Seaperch, Striped	17	1	0.5
Total		197	100

C. CPUE

Catch per Angler Day = 0.69 Catch per Angler Hour = 0.23

Table 5. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 286
 Total Hours Effort for Anglers Intercepted = 839.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Greenling, Kelp	1	53	37.9	0.41	21.94
Rockfish, Black	2	32	22.9	0.56	17.91
Rockfish, Grass	3	15	10.7	1.21	18.13
Cabazon	4	7	5.0	0.89	6.23
Greenling, Rock	5	6	4.3	0.34	2.02
Lingcod	6	5	3.6	2.90	14.50
Surfperch, Redtail	7	5	3.6	0.48	2.38
Salmon, Chinook (King)	8	4	2.9	3.80	15.20
Surfperch, Walleye	9	4	2.9	0.23	0.92
Smelt, Surf	10	3	2.1	0.00**	0.00
Rockfish, Brown	11	2	1.4	0.23	0.45
Rockfish, Copper	12	1	0.7	0.30	0.30
Rockfish, Blue	13	1	0.7	0.20	0.20
Irish Lord, Brown	14	1	0.7	0.30	0.30
Seaperch, Striped	15	1	0.7	0.50	0.50
Total		140	100		100.98

C. CPUE

Catch per Angler Day = 0.49 Catch per Angler Hour = 0.17
 Kg per Angler Day = 0.35 Kg per Angler Hour = 0.12

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 6. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 286
 Total Hours Effort for Anglers Intercepted = 839.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Greenling, Kelp	1	20.70	50	39.4	48	0.41	302	42
Rockfish, Grass	2	18.13	15	11.8	15	1.21	354	83
Rockfish, Black	3	15.67	28	22.0	28	0.56	299	104
Salmon, Chinook (King)	4	15.20	4	3.1	4	3.80	732	81
Lingcod	5	14.50	5	3.9	5	2.90	637	73
Cabazon	6	5.34	6	4.7	6	0.89	341	132
Surfperch, Redtail	7	1.90	4	3.1	4	0.48	299	37
Greenling, Rock	8	1.69	5	3.9	5	0.34	272	76
Surfperch, Walleye	9	0.92	4	3.1	4	0.23	233	18
Seaperch, Striped	10	0.50	1	0.8	1	0.50	321	0
Rockfish, Brown	11	0.45	2	1.6	2	0.23	236	7
Rockfish, Copper	12	0.30	1	0.8	1	0.30	240	0
Irish Lord, Brown	13	0.30	1	0.8	1	0.30	231	0
Rockfish, Blue	14	0.20	1	0.8	1	0.20	226	0
Total		95.79	127	100	125			

C. CPUE***

Catch per Angler Day = 0.44 Catch per Angler Hour = 0.15
 Kg per Angler Day = 0.33 Kg per Angler Hour = 0.11

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 7. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Spear Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 6
 Total Hours Effort for Anglers Intercepted = 8.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Seaperch, Striped	1	5	55.6
Rockfish, Black	2	2	22.2
Greenling, Kelp	3	1	11.1
Greenling, Rock	4	1	11.1
Total		9	100

C. CPUE

Catch per Angler Day = 1.50 Catch per Angler Hour = 1.13

Table 8. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Spear Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 6
 Total Hours Effort for Anglers Intercepted = 8.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Seaperch, Striped	1	5	55.6	0.60	3.00
Rockfish, Black	2	2	22.2	0.73	1.46
Greenling, Kelp	3	1	11.1	0.40	0.40
Greenling, Rock	4	1	11.1	0.73	0.73
Total		9	100		5.59

C. CPUE

Catch per Angler Day = 1.50 Catch per Angler Hour = 1.13
 Kg per Angler Day = 0.93 Kg per Angler Hour = 0.70

* Weight estimated from length-to-weight regression if available.

Table 9. Sampled Effort, Ranked Catch and CPUE for Area 1
in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using
Spear Gear. Catch Represents Only the Fish
Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 6
Total Hours Effort for Anglers Intercepted = 8.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Seaperch, Striped	1	3.00	5	55.6	5	0.60	330	21
Rockfish, Black	2	1.46	2	22.2	2	0.73	354	95
Greenling, Rock	3	0.73	1	11.1	1	0.73	376	0
Greenling, Kelp	4	0.40	1	11.1	1	0.40	315	0
Total		5.59	9	100	9			

C. CPUE***

Catch per Angler Day = 1.50 Catch per Angler Hour = 1.13
Kg per Angler Day = 0.93 Kg per Angler Hour = 0.70

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 10. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 166
 Total Hours Effort for Anglers Intercepted = 399.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Redtail	1	65	58.6
Rockfish, Black	2	23	20.7
Greenling, Kelp	3	10	9.0
Seaperch, Striped	4	5	4.5
Greenling, Rock	5	4	3.6
Cabazon	6	2	1.8
Rockfish, Grass	7	1	0.9
Sculpin, Buffalo	8	1	0.9
Total		111	100

C. CPUE

Catch per Angler Day = 0.67 Catch per Angler Hour = 0.28

Table 11. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 166
 Total Hours Effort for Anglers Intercepted = 399.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Redtail	1	62	67.4	0.47	29.02
Rockfish, Black	2	17	18.5	0.65	10.98
Seaperch, Striped	3	5	5.4	0.00**	0.00
Greenling, Rock	4	4	4.3	0.32	1.28
Greenling, Kelp	5	2	2.2	0.43	0.86
Rockfish, Grass	6	1	1.1	0.00**	0.00
Cabazon	7	1	1.1	0.00**	0.00
Total		92	100		42.15

C. CPUE

Catch per Angler Day = 0.55 Catch per Angler Hour = 0.23
 Kg per Angler Day = 0.25 Kg per Angler Hour = 0.11

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 12. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 166
 Total Hours Effort for Anglers Intercepted = 399.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Redtail	1	22.94	49	70.0	47	0.47	292	49
Rockfish, Black	2	10.98	17	24.3	17	0.65	336	70
Greenling, Rock	3	0.96	3	4.3	3	0.32	281	25
Greenling, Kelp	4	0.43	1	1.4	1	0.43	313	0
Total		35.31	70	100	68			

C. CPUE***

Catch per Angler Day = 0.42 Catch per Angler Hour = 0.18
 Kg per Angler Day = 0.21 Kg per Angler Hour = 0.09

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 13. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 27
 Total Hours Effort for Anglers Intercepted = 44.7

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Smelt, Surf	1	5843	99.8
Surfperch, Redtail	2	12	0.2
Total		5855	100

C. CPUE

Catch per Angler Day = 216.85 Catch per Angler Hour = 131.12

Table 14. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 27
 Total Hours Effort for Anglers Intercepted = 44.7

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Smelt, Surf	1	5843	99.8	0.04	231.62
Surfperch, Redtail	2	12	0.2	0.37	4.40
Total		5855	100		236.02

C. CPUE

Catch per Angler Day = 216.85 Catch per Angler Hour = 131.12
 Kg per Angler Day = 8.74 Kg per Angler Hour = 5.29

* Weight estimated from length-to-weight regression if available.

Table 15. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 27
 Total Hours Effort for Anglers Intercepted = 44.7

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Smelt, Surf	1	231.62	5843	99.8	150	0.04	182	11
Surfperch, Redtail	2	3.30	9	0.2	9	0.37	278	30
Total		234.92	5852	100	159			

C. CPUE***

Catch per Angler Day = 216.74 Catch per Angler Hour = 131.05
 Kg per Angler Day = 8.70 Kg per Angler Hour = 5.26

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 16. Sampled Effort, Ranked Catch and CPUE for Area 1
in 1984 for Quarter 3, by Private or Rental Boat Anglers Using
Hook-and-Line Gear. Catch Represents All Fish Captured,
Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 130
Total Hours Effort for Anglers Intercepted = 552.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Black	1	652	71.2
Rockfish, Canary	2	56	6.1
Lingcod	3	46	5.0
Rockfish, Blue	4	37	4.0
Rockfish, Copper	5	30	3.3
Rockfish, Yelloweye	6	24	2.6
Rockfish, Yellowtail	7	20	2.2
Rockfish, Vermilion	8	16	1.7
Cabazon	9	13	1.4
Rockfish, Quillback	10	7	0.8
Rockfish, Brown	11	5	0.5
Greenling, Kelp	12	4	0.4
Jacksmelt	13	3	0.3
Rockfish, China	14	2	0.2
Sole, Petrale	15	1	0.1
Total		916	100

C. CPUE

Catch per Angler Day = 7.05 Catch per Angler Hour = 1.66

Table 17. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 130
 Total Hours Effort for Anglers Intercepted = 552.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Black	1	569	69.6	1.14	649.75
Rockfish, Canary	2	56	6.9	1.03	57.50
Lingcod	3	43	5.3	3.83	164.76
Rockfish, Blue	4	37	4.5	1.11	41.06
Rockfish, Copper	5	30	3.7	2.70	80.89
Rockfish, Yelloweye	6	23	2.8	2.97	68.31
Rockfish, Yellowtail	7	18	2.2	0.97	17.50
Cabazon	8	13	1.6	2.07	26.90
Rockfish, Vermilion	9	10	1.2	2.31	23.10
Rockfish, Quillback	10	7	0.9	1.64	11.50
Rockfish, Brown	11	5	0.6	0.99	4.96
Greenling, Kelp	12	3	0.4	0.75	2.25
Rockfish, China	13	2	0.2	1.10	2.20
Sole, Petrale	14	1	0.1	0.00**	0.00
Total		817	100		1150.68

C. CPUE

Catch per Angler Day = 6.28 Catch per Angler Hour = 1.48
 Kg per Angler Day = 8.85 Kg per Angler Hour = 2.08

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 18. Sampled Effort, Ranked Catch and CPUE for Area 1 in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 130
 Total Hours Effort for Anglers Intercepted = 552.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Black	1	593.80	520	68.4	229	1.14	415	65
Lingcod	2	157.10	41	5.4	41	3.83	680	136
Rockfish, Copper	3	75.50	28	3.7	28	2.70	523	47
Rockfish, Yelloweye	4	59.40	20	2.6	20	2.97	500	149
Rockfish, Canary	5	57.50	56	7.4	56	1.03	399	74
Rockfish, Blue	6	41.06	37	4.9	31	1.11	410	60
Cabazon	7	26.90	13	1.7	13	2.07	507	59
Rockfish, Vermilion	8	23.10	10	1.3	10	2.31	506	111
Rockfish, Yellowtail	9	17.50	18	2.4	18	0.97	386	92
Rockfish, Quillback	10	11.50	7	0.9	7	1.64	445	83
Rockfish, Brown	11	4.96	5	0.7	5	0.99	379	48
Greenling, Kelp	12	2.25	3	0.4	3	0.75	376	42
Rockfish, China	13	2.20	2	0.3	2	1.10	373	103
Total		1072.76	760	100	463			

C. CPUE***

Catch per Angler Day = 5.85 Catch per Angler Hour = 1.38
 Kg per Angler Day = 8.25 Kg per Angler Hour = 1.94

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Figure 2. Length-Frequency Histogram for Surf Smelt
 Taken by Beach and Bank Anglers Using Shore Net Gear.
 Area 1, Quarter 3, 1984.

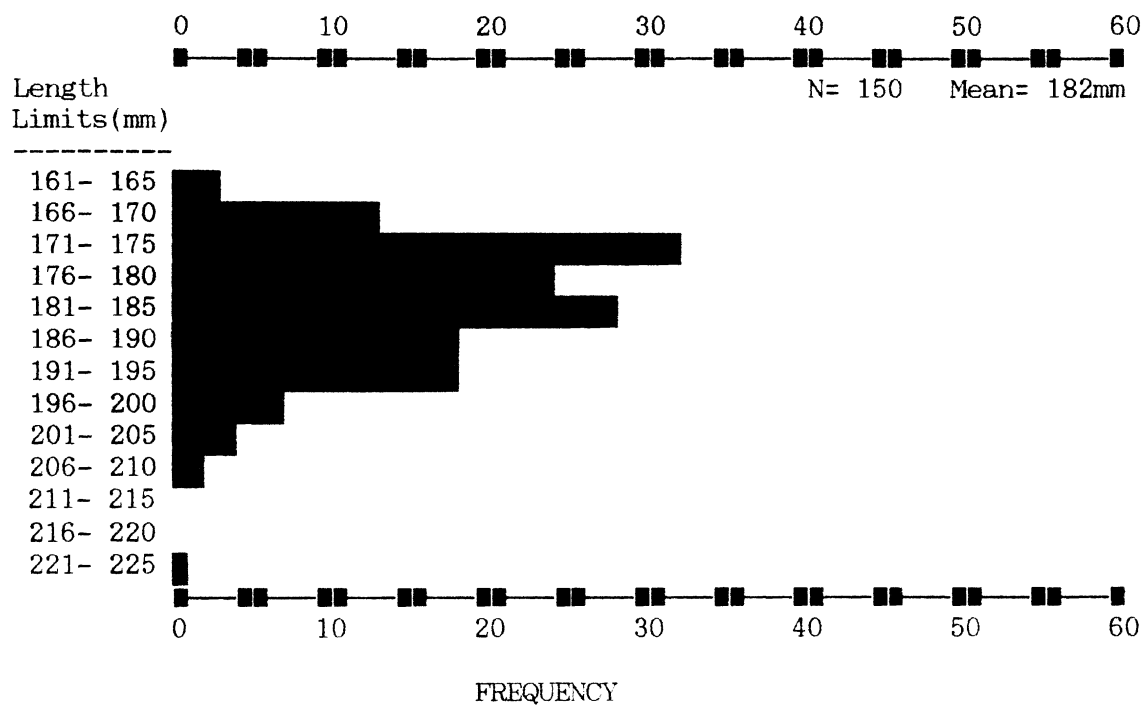


Figure 3. Length-Frequency Histogram for Black Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 1, Quarter 3, 1984.

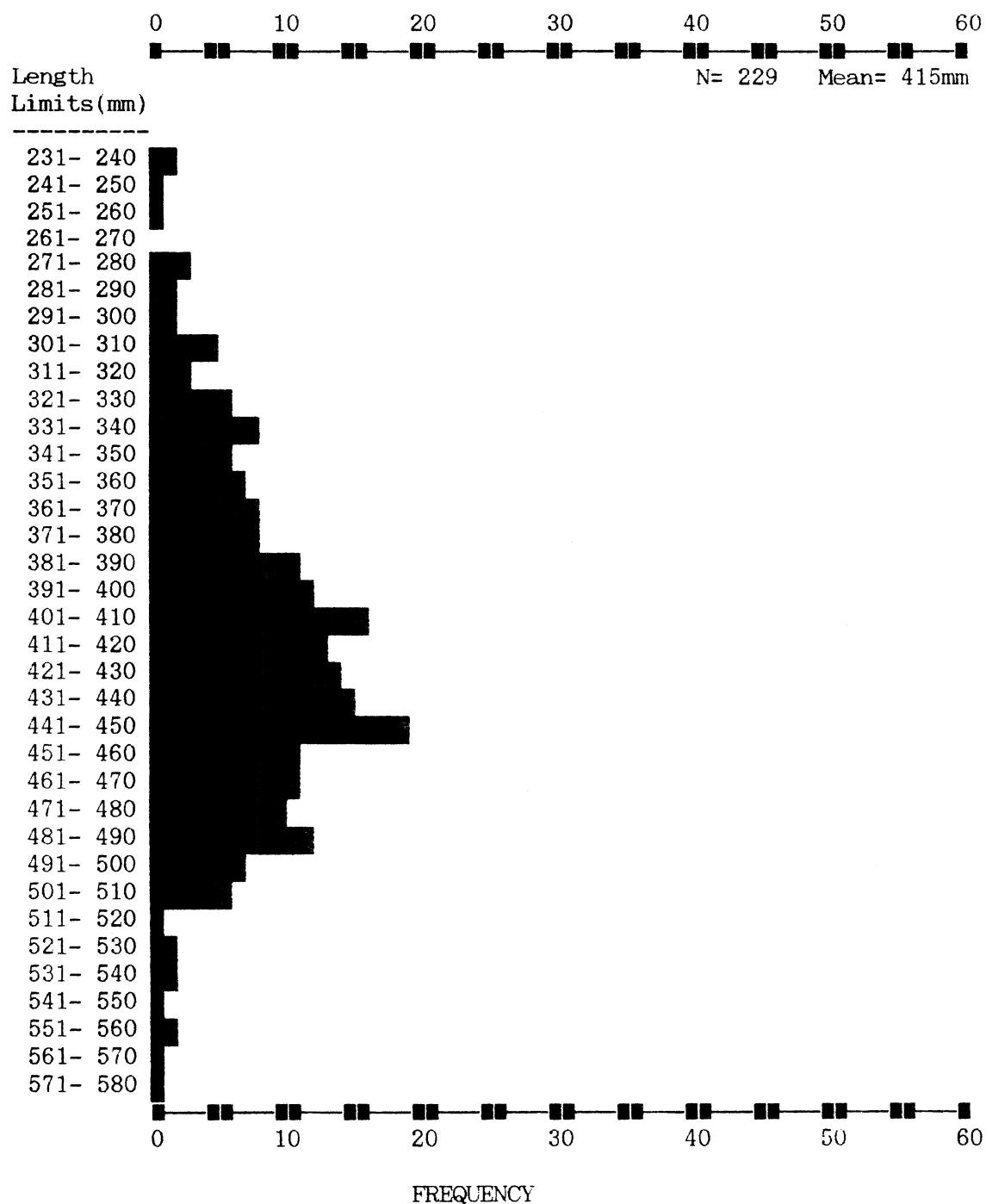


Table 19. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 12
 Total Hours Effort for Anglers Intercepted = 16.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Perch, Shiner	1	6	%100.0
Total		6	100

C. CPUE

Catch per Angler Day = 0.50 Catch per Angler Hour = 0.38

Table 20. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 12
 Total Hours Effort for Anglers Intercepted = 16.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt.(kg)*	Weight Caught

Total		0	0		0.00

C. CPUE

Catch per Angler Day = 0.00 Catch per Angler Hour = 0.00
 Kg per Angler Day = 0.00 Kg per Angler Hour = 0.00

* Weight estimated from length-to-weight regression if available.

Table 21. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 12
 Total Hours Effort for Anglers Intercepted = 16.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	Wt.* (kg)	Ln.** (mm)	SD LN.
Total		0.00	0	0	0			

C. CPUE***

Catch per Angler Day = 0.00 Catch per Angler Hour = 0.00
 Kg per Angler Day = 0.00 Kg per Angler Hour = 0.00

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 22. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 184
 Total Hours Effort for Anglers Intercepted = 430.3

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Sculpins	1	6	15.0
Seaperch, Striped	2	5	12.5
Unidentified Fishes	3	4	10.0
Prickleback, Monkeyface	4	3	7.5
Rockfish, Copper	5	2	5.0
Rockfish, Gopher	6	2	5.0
Surfperches	7	2	5.0
Seaperch, White	8	2	5.0
Prickleback, Rock	9	2	5.0
Salmon, Coho (Silver)	10	1	2.5
Rockfish, Black	11	1	2.5
Greenling, Kelp	12	1	2.5
Greenling, Rock	13	1	2.5
Lingcod	14	1	2.5
Perch, Pile	15	1	2.5
Surfperch, Redtail	16	1	2.5
Surfperch, Calico	17	1	2.5
Seaperch, Rainbow	18	1	2.5
Flounders, Lefteye	19	1	2.5
Sanddab, Pacific	20	1	2.5
Sole, Rock	21	1	2.5
Total		40	100

C. CPUE

Catch per Angler Day = 0.22 Catch per Angler Hour = 0.09

Table 23. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 184
 Total Hours Effort for Anglers Intercepted = 430.3

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Seaperch, Striped	1	4	15.4	0.43	1.72
Prickleback, Monkeyface	2	3	11.5	0.00**	0.00
Rockfish, Copper	3	2	7.7	0.93	1.87
Rockfish, Gopher	4	2	7.7	0.00**	0.00
Seaperch, White	5	2	7.7	0.14	0.27
Prickleback, Rock	6	2	7.7	0.00**	0.00
Salmon, Coho (Silver)	7	1	3.8	1.50	1.50
Rockfish, Black	8	1	3.8	0.30	0.30
Greenling, Kelp	9	1	3.8	0.26	0.26
Greenling, Rock	10	1	3.8	0.20	0.20
Lingcod	11	1	3.8	1.88	1.88
Perch, Pile	12	1	3.8	0.60	0.60
Surfperch, Redtail	13	1	3.8	0.50	0.50
Surfperch, Calico	14	1	3.8	0.16	0.16
Seaperch, Rainbow	15	1	3.8	0.20	0.20
Sanddab, Pacific	16	1	3.8	0.12	0.12
Sole, Rock	17	1	3.8	0.09	0.09
Total		26	100		9.66

C. CPUE

Catch per Angler Day = 0.14 Catch per Angler Hour = 0.06
 Kg per Angler Day = 0.05 Kg per Angler Hour = 0.02

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 24. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 184
 Total Hours Effort for Anglers Intercepted = 430.3

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Lingcod	1	1.88	1	4.2	1	1.88	557	0
Rockfish, Copper	2	1.87	2	8.3	3	0.93	341	123
Seaperch, Striped	3	1.72	4	16.7	4	0.43	289	62
Salmon, Coho (Silver)	4	1.50	1	4.2	1	1.50	541	0
Perch, Pile	5	0.60	1	4.2	1	0.60	326	0
Surfperch, Redtail	6	0.50	1	4.2	1	0.50	298	0
Rockfish, Black	7	0.30	1	4.2	1	0.30	281	0
Seaperch, White	8	0.27	2	8.3	2	0.14	223	19
Greenling, Kelp	9	0.26	1	4.2	1	0.26	261	0
Greenling, Rock	10	0.20	1	4.2	1	0.20	223	0
Seaperch, Rainbow	11	0.20	1	4.2	1	0.20	232	0
Surfperch, Calico	12	0.16	1	4.2	1	0.16	215	0
Sanddab, Pacific	13	0.12	1	4.2	1	0.12	225	0
Sole, Rock	14	0.09	1	4.2	1	0.09	194	0
Prickleback, Rock	15	0.00	2	8.3	2	0.00	414	40
Prickleback, Monkeyface	16	0.00	3	12.5	3	0.00	316	22
Total		9.66	24	100	25			

C. CPUE***

Catch per Angler Day = 0.13 Catch per Angler Hour = 0.06
 Kg per Angler Day = 0.05 Kg per Angler Hour = 0.02

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 25. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	157
Total Hours Effort for Anglers Intercepted	=	396.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Smelt, Surf	1	1762	92.9
Rockfish, Black	2	20	1.1
Surfperches	3	14	0.7
Rockfish, Blue	4	13	0.7
Greenlings (general)	5	13	0.7
Rockfish, Canary	6	8	0.4
Rockfish, Copper	7	7	0.4
Greenling, Rock	8	7	0.4
Seaperch, White	9	6	0.3
Rockfish, Brown	10	5	0.3
Rockfish, China	11	5	0.3
Greenling, Kelp	12	5	0.3
Lingcod	13	5	0.3
Cabazon	14	4	0.2
Rockfish, Kelp	15	3	0.2
Seaperch, Sharpnose	16	3	0.2
Surfperch, Redtail	17	3	0.2
Surfperch, Silver	18	2	0.1
Unidentified Fishes	19	1	0.1
Shark, Leopard	20	1	0.1
Jacksmelt	21	1	0.1
Rockfish, Rosy	22	1	0.1
Rockfish, Yelloweye	23	1	0.1
Rockfish, Speckled	24	1	0.1
Rockfish, Olive	25	1	0.1
Perch, Kelp	26	1	0.1

(Table 25. - continued)

Common name	Rank by Number	Number Caught	% by Number
Seaperch, Striped	27	1	0.1
Surfperch, Calico	28	1	0.1
Flounder, Starry	29	1	0.1
Total		1896	100

C. CPUE

Catch per Angler Day = 12.08 Catch per Angler Hour = 4.79

Table 26. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 157
 Total Hours Effort for Anglers Intercepted = 396.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Smelt, Surf	1	1762	93.5	0.03	59.40
Rockfish, Black	2	20	1.1	0.93	18.50
Rockfish, Blue	3	13	0.7	0.45	5.79
Greenlings (general)	4	11	0.6	0.36**	3.96
Rockfish, Canary	5	8	0.4	0.55	4.40
Surfperches	6	8	0.4	0.20**	1.60
Rockfish, Copper	7	7	0.4	1.50	10.50
Greenling, Rock	8	7	0.4	0.34	2.40
Seaperch, White	9	6	0.3	0.20	1.20
Rockfish, Brown	10	5	0.3	0.74	3.70
Rockfish, China	11	5	0.3	0.64	3.20
Greenling, Kelp	12	5	0.3	0.38	1.88
Lingcod	13	5	0.3	2.61	13.06
Cabazon	14	4	0.2	1.08	4.30
Rockfish, Kelp	15	3	0.2	0.53	1.60
Seaperch, Sharpnose	16	3	0.2	0.10	0.30
Surfperch, Silver	17	2	0.1	0.13	0.26
Surfperch, Redtail	18	2	0.1	0.40	0.80
Shark, Leopard	19	1	0.1	5.70	5.70
Rockfish, Rosy	20	1	0.1	0.40	0.40
Rockfish, Yelloweye	21	1	0.1	4.00	4.00
Rockfish, Speckled	22	1	0.1	0.20	0.20
Rockfish, Olive	23	1	0.1	0.40	0.40
Perch, Kelp	24	1	0.1	0.00**	0.00
Seaperch, Striped	25	1	0.1	0.24	0.24
Surfperch, Calico	26	1	0.1	0.14	0.14
Flounder, Starry	27	1	0.1	2.80	2.80

(Table 26. - continued)

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
<hr/>					
Total		1885	100		150.74

C. CPUE

Catch per Angler Day = 12.01 Catch per Angler Hour = 4.76
 Kg per Angler Day = 0.96 Kg per Angler Hour = 0.38

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 27. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 157
 Total Hours Effort for Anglers Intercepted = 396.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Smelt, Surf	1	59.40	1762	94.8	42	0.03	174	9
Rockfish, Black	2	18.50	20	1.1	20	0.93	381	77
Rockfish, Copper	3	9.00	6	0.3	6	1.50	425	64
Shark, Leopard	4	5.70	1	0.1	1	5.70	852	0
Lingcod	5	5.22	2	0.1	2	2.61	622	9
Rockfish, Blue	6	4.90	11	0.6	11	0.45	305	46
Cabazon	7	4.30	4	0.2	4	1.08	396	73
Rockfish, Yelloweye	8	4.00	1	0.1	1	4.00	598	0
Rockfish, Brown	9	3.70	5	0.3	5	0.74	347	32
Rockfish, Canary	10	3.30	6	0.3	6	0.55	325	58
Rockfish, China	11	3.20	5	0.3	5	0.64	323	47
Flounder, Starry	12	2.80	1	0.1	1	2.80	582	0
Greenling, Rock	13	2.40	7	0.4	7	0.34	285	31
Greenling, Kelp	14	1.88	5	0.3	5	0.38	282	81
Rockfish, Kelp	15	1.60	3	0.2	3	0.53	328	31
Seaperch, White	16	1.20	6	0.3	6	0.20	251	15
Surfperch, Redtail	17	0.80	2	0.1	2	0.40	285	65
Rockfish, Rosy	18	0.40	1	0.1	1	0.40	292	0
Rockfish, Olive	19	0.40	1	0.1	1	0.40	320	0
Seaperch, Sharpnose	20	0.30	3	0.2	3	0.10	200	6
Surfperch, Silver	21	0.26	2	0.1	2	0.13	203	13
Seaperch, Striped	22	0.24	1	0.1	1	0.24	244	0
Rockfish, Speckled	23	0.20	1	0.1	1	0.20	248	0
Surfperch, Calico	24	0.14	1	0.1	1	0.14	206	0
Perch, Kelp	25	0.00	1	0.1	1	0.00	270	0
Total		133.85	1858	100	138			

C. CPUE***

Catch per Angler Day = 11.83 Catch per Angler Hour = 4.69
 Kg per Angler Day = 0.85 Kg per Angler Hour = 0.34

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 28. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 53
 Total Hours Effort for Anglers Intercepted = 100.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Smelt, Surf	1	4892	98.7
Smelt, Night	2	64	1.3
Total		4956	100

C. CPUE

Catch per Angler Day = 93.51 Catch per Angler Hour = 49.31

Table 29. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 53
 Total Hours Effort for Anglers Intercepted = 100.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Smelt, Surf	1	4892	98.7	0.03	154.89
Smelt, Night	2	64	1.3	0.01	0.56
Total		4956	100		155.46

C. CPUE

Catch per Angler Day = 93.51 Catch per Angler Hour = 49.31
 Kg per Angler Day = 2.93 Kg per Angler Hour = 1.55

* Weight estimated from length-to-weight regression if available.

Table 30. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 53
 Total Hours Effort for Anglers Intercepted = 100.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Smelt, Surf	1	128.23	4050	98.4	243	0.03	171	7
Smelt, Night	2	0.56	64	1.6	10	0.01	118	5
Total		128.80	4114	100	253			

C. CPUE***

Catch per Angler Day = 77.62 Catch per Angler Hour = 40.94
 Kg per Angler Day = 2.43 Kg per Angler Hour = 1.28

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 31. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Spear Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 29
 Total Hours Effort for Anglers Intercepted = 27.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Bottomfishes (Groundfishes)	1	18	40.0
Rockfish, Blue	2	11	24.4
Greenling, Kelp	3	6	13.3
Lingcod	4	4	8.9
Cabazon	5	2	4.4
Seaperch, Striped	6	2	4.4
Rockfishes (unidentified)	7	1	2.2
Seaperch, Rubberlip	8	1	2.2
Total		45	100

C. CPUE

Catch per Angler Day = 1.55 Catch per Angler Hour = 1.64

Table 32. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Spear Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 29
 Total Hours Effort for Anglers Intercepted = 27.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Bottomfishes (Groundfishes)	1	18	40.9	0.98**	17.64
Rockfish, Blue	2	11	25.0	0.56	6.20
Greenling, Kelp	3	6	13.6	0.55	3.29
Lingcod	4	4	9.1	2.62	10.48
Cabezon	5	2	4.5	1.85	3.70
Seaperch, Striped	6	2	4.5	0.37	0.74
Seaperch, Rubberlip	7	1	2.3	1.10	1.10
Total		44	100		43.15

C. CPUE

Catch per Angler Day = 1.52 Catch per Angler Hour = 1.60
 Kg per Angler Day = 1.49 Kg per Angler Hour = 1.57

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 33. Sampled Effort, Ranked Catch and CPUE for Area 2 in 1984 for Quarter 3, by Beach or Bank Anglers Using Spear Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 29
Total Hours Effort for Anglers Intercepted = 27.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Lingcod	1	10.48	4	15.4	4	2.62	587	170
Rockfish, Blue	2	6.20	11	42.3	11	0.56	330	30
Cabazon	3	3.70	2	7.7	2	1.85	482	79
Greenling, Kelp	4	3.29	6	23.1	6	0.55	338	34
Seaperch, Rubberlip	5	1.10	1	3.8	1	1.10	385	0
Seaperch, Striped	6	0.74	2	7.7	2	0.37	280	47
Total		25.51	26	100	26			

C. CPUE***

Catch per Angler Day = 0.90 Catch per Angler Hour = 0.95
Kg per Angler Day = 0.88 Kg per Angler Hour = 0.93

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Figure 4. Length-Frequency Histogram for Surf Smelt
 Taken by Beach and Bank Anglers Using Shore Net Gear.
 Area 2, Quarter 3, 1984.

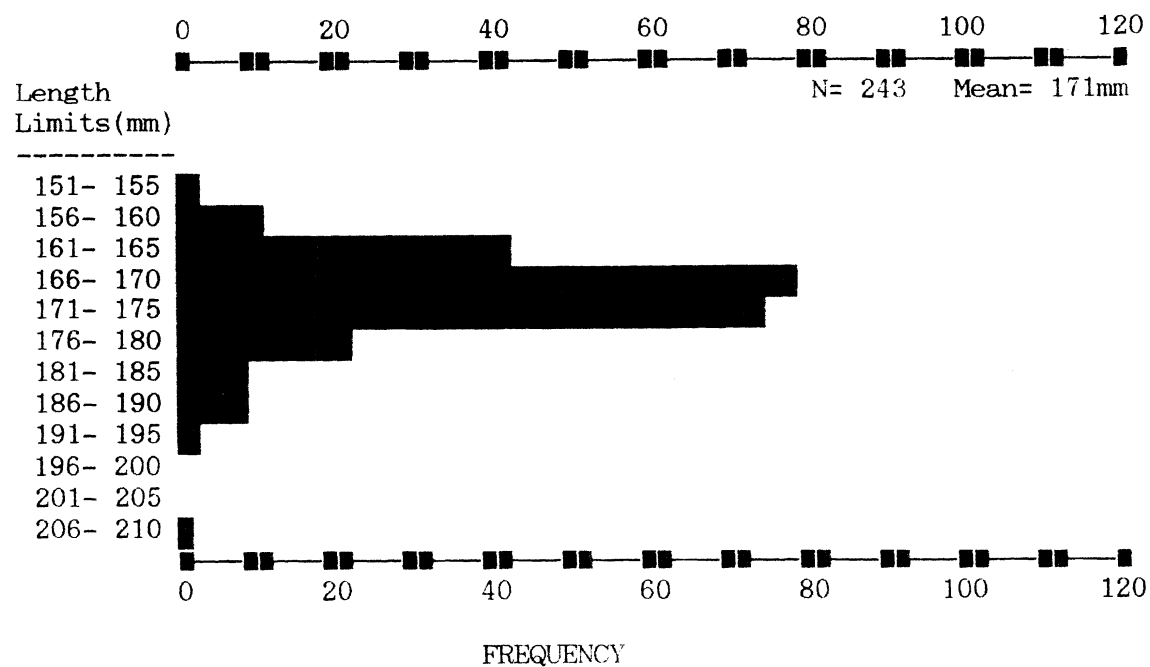


Table 34. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 61
 Total Hours Effort for Anglers Intercepted = 237.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Black	1	76	34.1
Rockfish, Canary	2	38	17.0
Rockfishes (unidentified)	3	20	9.0
Lingcod	4	16	7.2
Rockfish, Yellowtail	5	12	5.4
Rockfish, Blue	6	11	4.9
Rockfish, Copper	7	9	4.0
Rockfish, Yelloweye	8	9	4.0
Rockfish, Rosy	9	8	3.6
Rockfish, China	10	5	2.2
Thornyhead, Shortspine	11	5	2.2
Sanddab, Pacific	12	5	2.2
Rockfish, Vermilion	13	4	1.8
Rockfish, Quillback	14	1	0.4
Rockfish, Kelp	15	1	0.4
Rockfish, Gopher	16	1	0.4
Greenling, Kelp	17	1	0.4
Cabazon	18	1	0.4
Total		223	100

C. CPUE

Catch per Angler Day = 3.66 Catch per Angler Hour = 0.94

Table 35. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 61
 Total Hours Effort for Anglers Intercepted = 237.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Black	1	76	34.1	0.86	65.36
Rockfish, Canary	2	38	17.0	0.49	18.51
Rockfishes (unidentified)	3	20	9.0	0.99**	19.80
Lingcod	4	16	7.2	4.04	64.70
Rockfish, Yellowtail	5	12	5.4	0.69	8.30
Rockfish, Blue	6	11	4.9	0.50	5.50
Rockfish, Copper	7	9	4.0	1.64	14.80
Rockfish, Yelloweye	8	9	4.0	1.45	13.08
Rockfish, Rosy	9	8	3.6	0.38	3.00
Rockfish, China	10	5	2.2	0.88	4.42
Thornyhead, Shortspine	11	5	2.2	6.54	32.70
Sanddab, Pacific	12	5	2.2	0.11	0.55
Rockfish, Vermilion	13	4	1.8	2.65	10.60
Rockfish, Quillback	14	1	0.4	1.20	1.20
Rockfish, Kelp	15	1	0.4	0.50	0.50
Rockfish, Gopher	16	1	0.4	0.40	0.40
Greenling, Kelp	17	1	0.4	0.74	0.74
Cabezon	18	1	0.4	2.50	2.50
Total		223	100		266.66

C. CPUE

Catch per Angler Day = 3.66 Catch per Angler Hour = 0.94
 Kg per Angler Day = 4.37 Kg per Angler Hour = 1.12

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 36. Sampled Effort, Ranked Catch and CPUE for Area 045
in 1984 for Quarter 3, by Private or Rental Boat Anglers Using
Hook-and-Line Gear. Catch Represents Only the Fish
Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 61
Total Hours Effort for Anglers Intercepted = 237.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Black	1	65.36	76	37.4	50	0.86	374	66
Lingcod	2	64.70	16	7.9	16	4.04	690	161
Thornyhead, Shortspine	3	32.70	5	2.5	5	6.54	669	75
Rockfish, Canary	4	18.51	38	18.7	38	0.49	315	50
Rockfish, Copper	5	14.80	9	4.4	9	1.64	432	83
Rockfish, Yelloweye	6	13.08	9	4.4	15	1.45	390	121
Rockfish, Vermilion	7	10.60	4	2.0	4	2.65	547	40
Rockfish, Yellowtail	8	8.30	12	5.9	12	0.69	346	86
Rockfish, Blue	9	5.50	11	5.4	11	0.50	313	50
Rockfish, China	10	4.42	5	2.5	6	0.88	358	34
Rockfish, Rosy	11	3.00	8	3.9	8	0.38	280	20
Cabezon	12	2.50	1	0.5	1	2.50	545	0
Rockfish, Quillback	13	1.20	1	0.5	1	1.20	398	0
Greenling, Kelp	14	0.74	1	0.5	1	0.74	378	0
Sanddab, Pacific	15	0.55	5	2.5	5	0.11	207	53
Rockfish, Kelp	16	0.50	1	0.5	1	0.50	326	0
Rockfish, Gopher	17	0.40	1	0.5	1	0.40	296	0
Total		246.86	203	100	184			

C. CPUE***

Catch per Angler Day = 3.33 Catch per Angler Hour = 0.85
Kg per Angler Day = 4.05 Kg per Angler Hour = 1.04

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 37. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 11
 Total Hours Effort for Anglers Intercepted = 44.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Yellowtail	1	50	36.2
Rockfish, Blue	2	33	23.9
Rockfish, Greenspotted	3	15	10.9
Rockfish, Canary	4	13	9.4
Bocaccio	5	9	6.5
Rockfish, Yelloweye	6	7	5.1
Rockfish, Rosy	7	3	2.2
Rockfish, Copper	8	2	1.4
Sharks	9	1	0.7
Rockfish, Greenstriped	10	1	0.7
Rockfish, Widow	11	1	0.7
Lingcod	12	1	0.7
Sole, Petrale	13	1	0.7
Sole, Sand	14	1	0.7
Total		138	100

C. CPUE

Catch per Angler Day = 12.55 Catch per Angler Hour = 3.14

Table 38. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 11
 Total Hours Effort for Anglers Intercepted = 44.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Yellowtail	1	50	36.2	1.50	74.79
Rockfish, Blue	2	33	23.9	0.83	27.39
Rockfish, Greenspotted	3	15	10.9	1.14	17.03
Rockfish, Canary	4	13	9.4	1.56	20.27
Bocaccio	5	9	6.5	2.53	22.80
Rockfish, Yelloweye	6	7	5.1	4.49	31.40
Rockfish, Rosy	7	3	2.2	0.40	1.20
Rockfish, Copper	8	2	1.4	1.55	3.10
Sharks	9	1	0.7	0.00**	0.00
Rockfish, Greenstriped	10	1	0.7	0.20	0.20
Rockfish, Widow	11	1	0.7	2.20	2.20
Lingcod	12	1	0.7	2.98	2.98
Sole, Petrale	13	1	0.7	2.60	2.60
Sole, Sand	14	1	0.7	0.14	0.14
Total		138	100		206.09

C. CPUE

Catch per Angler Day = 12.55 Catch per Angler Hour = 3.14
 Kg per Angler Day = 18.74 Kg per Angler Hour = 4.68

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 39. Sampled Effort, Ranked Catch and CPUE for Area 045 in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 11
 Total Hours Effort for Anglers Intercepted = 44.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Yellowtail	1	74.79	50	36.2	47	1.50	465	51
Rockfish, Yelloweye	2	31.40	7	5.1	7	4.49	608	92
Rockfish, Blue	3	27.39	33	23.9	10	0.83	377	38
Bocaccio	4	22.80	9	6.5	9	2.53	616	46
Rockfish, Canary	5	20.27	13	9.4	13	1.56	465	61
Rockfish, Greenspotted	6	17.03	15	10.9	15	1.14	407	66
Rockfish, Copper	7	3.10	2	1.4	2	1.55	439	18
Lingcod	8	2.98	1	0.7	1	2.98	650	0
Sole, Petrale	9	2.60	1	0.7	1	2.60	572	0
Rockfish, Widow	10	2.20	1	0.7	1	2.20	534	0
Rockfish, Rosy	11	1.20	3	2.2	3	0.40	290	24
Rockfish, Greenstriped	12	0.20	1	0.7	1	0.20	261	0
Sole, Sand	13	0.14	1	0.7	1	0.14	228	0
Sharks	14	0.00	1	0.7	1	0.00	2009	0
Total		206.09	138	100	112			

C. CPUE***

Catch per Angler Day = 12.55 Catch per Angler Hour = 3.14
 Kg per Angler Day = 18.74 Kg per Angler Hour = 4.68

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 40. Sampled Effort, Ranked Catch and CPUE for Area 097
in 1984 for Quarter 3, by Private or Rental Boat Anglers Using
Hook-and-Line Gear. Catch Represents All Fish Captured,
Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 25
Total Hours Effort for Anglers Intercepted = 95.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	42	24.1
Rockfish, Black	2	38	21.8
Rockfish, Canary	3	16	9.2
Rockfish, Copper	4	15	8.6
Rockfishes (general)	5	14	8.0
Rockfishes (unidentified)	6	13	7.5
Rockfish, Brown	7	9	5.2
Lingcod	8	7	4.0
Rockfish, Quillback	9	2	1.1
Rockfish, Rosy	10	2	1.1
Rockfish, Speckled	11	2	1.1
Rockfish, Olive	12	2	1.1
Rockfish, Gopher	13	2	1.1
Sanddab, Pacific	14	2	1.1
Unidentified Fishes	15	1	0.6
Rockfish, Yellowtail	16	1	0.6
Rockfish, Vermilion	17	1	0.6
Rockfish, China	18	1	0.6
Cowcod	19	1	0.6
Greenling, Kelp	20	1	0.6
Halibut, California	21	1	0.6
Flounder, Starry	22	1	0.6
Total		174	100

C. CPUE

Catch per Angler Day = 6.96 Catch per Angler Hour = 1.83

Table 41. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 25
 Total Hours Effort for Anglers Intercepted = 95.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Black	1	38	26.4	1.01	38.25
Rockfish, Canary	2	16	11.1	0.79	12.65
Rockfish, Copper	3	15	10.4	1.92	28.75
Rockfish, Blue	4	15	10.4	0.83	12.50
Rockfishes (general)	5	14	9.7	1.06**	14.84
Rockfishes (unidentified)	6	12	8.3	1.06**	12.72
Rockfish, Brown	7	9	6.3	0.83	7.50
Lingcod	8	7	4.9	3.88	27.13
Rockfish, Quillback	9	2	1.4	0.90	1.80
Rockfish, Rosy	10	2	1.4	0.40	0.80
Rockfish, Speckled	11	2	1.4	2.00	4.00
Rockfish, Olive	12	2	1.4	0.25	0.50
Rockfish, Gopher	13	2	1.4	0.55	1.10
Sanddab, Pacific	14	2	1.4	0.17	0.33
Rockfish, Yellowtail	15	1	0.7	1.90	1.90
Rockfish, Vermilion	16	1	0.7	1.30	1.30
Rockfish, China	17	1	0.7	0.70	0.70
Cowcod	18	1	0.7	1.60	1.60
Greenling, Kelp	19	1	0.7	5.80	5.80
Flounder, Starry	20	1	0.7	2.90	2.90
Total		144	100		177.07

C. CPUE

Catch per Angler Day = 5.76 Catch per Angler Hour = 1.52
 Kg per Angler Day = 7.08 Kg per Angler Hour = 1.86

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 42. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 25
 Total Hours Effort for Anglers Intercepted = 95.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Black	1	38.25	38	38.0	15	1.01	392	80
Rockfish, Copper	2	23.00	12	12.0	12	1.92	465	51
Lingcod	3	15.50	4	4.0	4	3.88	706	50
Rockfish, Canary	4	8.70	11	11.0	11	0.79	370	55
Rockfish, Brown	5	7.50	9	9.0	9	0.83	358	43
Rockfish, Blue	6	7.50	9	9.0	9	0.83	371	66
Greenling, Kelp	7	5.80	1	1.0	1	5.80	770	0
Rockfish, Speckled	8	4.00	2	2.0	2	2.00	505	35
Flounder, Starry	9	2.90	1	1.0	1	2.90	586	0
Rockfish, Yellowtail	10	1.90	1	1.0	1	1.90	510	0
Rockfish, Quillback	11	1.80	2	2.0	2	0.90	354	50
Cowcod	12	1.60	1	1.0	1	1.60	461	0
Rockfish, Vermilion	13	1.30	1	1.0	1	1.30	428	0
Rockfish, Gopher	14	1.10	2	2.0	2	0.55	317	13
Rockfish, China	15	0.70	1	1.0	1	0.70	335	0
Rockfish, Olive	16	0.50	2	2.0	2	0.25	267	23
Rockfish, Rosy	17	0.40	1	1.0	1	0.40	292	0
Sanddab, Pacific	18	0.33	2	2.0	2	0.17	247	15
Total		122.79	100	100	77			

C. CPUE***

Catch per Angler Day = 4.00 Catch per Angler Hour = 1.05
 Kg per Angler Day = 4.91 Kg per Angler Hour = 1.29

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 43. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 18
 Total Hours Effort for Anglers Intercepted = 65.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Yellowtail	1	60	27.1
Rockfishes (general)	2	31	14.0
Rockfish, Black	3	30	13.6
Rockfish, Brown	4	21	9.5
Rockfish, Widow	5	13	5.9
Bocaccio	6	13	5.9
Mackerel, Pacific (Chub)	7	12	5.4
Rockfish, Copper	8	11	5.0
Rockfish, Blue	9	8	3.6
Rockfish, Canary	10	7	3.2
Lingcod	11	7	3.2
Rockfish, Vermilion	12	2	0.9
Rockfish, Yelloweye	13	2	0.9
Rockfish, Greenspotted	14	2	0.9
Rockfish, Starry	15	1	0.5
Thornyhead, Shortspine	16	1	0.5
Total		221	100

C. CPUE

Catch per Angler Day = 12.28 Catch per Angler Hour = 3.37

Table 44. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 18
 Total Hours Effort for Anglers Intercepted = 65.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Yellowtail	1	60	33.9	1.34	80.60
Rockfish, Black	2	30	16.9	0.96	28.70
Rockfish, Brown	3	21	11.9	0.82	17.20
Rockfish, Widow	4	13	7.3	1.48	19.30
Bocaccio	5	13	7.3	1.48	19.30
Rockfish, Copper	6	11	6.2	1.25	13.70
Rockfish, Blue	7	8	4.5	0.48	3.80
Rockfish, Canary	8	7	4.0	1.04	7.30
Lingcod	9	4	2.3	3.33	13.30
Rockfish, Vermilion	10	2	1.1	0.65	1.30
Rockfish, Yelloweye	11	2	1.1	1.70	3.40
Rockfish, Greenspotted	12	2	1.1	0.80	1.60
Mackerel, Pacific (Chub)	13	2	1.1	0.65	1.30
Rockfish, Starry	14	1	0.6	1.10	1.10
Thornyhead, Shortspine	15	1	0.6	4.30	4.30
Total		177	100		216.20

C. CPUE

Catch per Angler Day = 9.83 Catch per Angler Hour = 2.70
 Kg per Angler Day = 12.01 Kg per Angler Hour = 3.30

* Weight estimated from length-to-weight regression if available.

Table 45. Sampled Effort, Ranked Catch and CPUE for Area 097 in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 18
 Total Hours Effort for Anglers Intercepted = 65.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Yellowtail	1	80.60	60	33.9	60	1.34	450	38
Rockfish, Black	2	28.70	30	16.9	30	0.96	393	58
Rockfish, Widow	3	19.30	13	7.3	13	1.48	464	72
Bocaccio	4	19.30	13	7.3	13	1.48	503	96
Rockfish, Brown	5	17.20	21	11.9	21	0.82	357	42
Rockfish, Copper	6	13.70	11	6.2	11	1.25	404	36
Lingcod	7	13.30	4	2.3	4	3.33	662	105
Rockfish, Canary	8	7.30	7	4.0	7	1.04	404	69
Thornyhead, Shortspine	9	4.30	1	0.6	1	4.30	588	0
Rockfish, Blue	10	3.80	8	4.5	8	0.48	312	32
Rockfish, Yelloweye	11	3.40	2	1.1	2	1.70	439	91
Rockfish, Greenspotted	12	1.60	2	1.1	2	0.80	368	18
Rockfish, Vermilion	13	1.30	2	1.1	2	0.65	339	47
Mackerel, Pacific (Chub)	14	1.30	2	1.1	2	0.65	357	29
Rockfish, Starry	15	1.10	1	0.6	1	1.10	405	0
Total		216.20	177	100	177			

C. CPUE***

Catch per Angler Day = 9.83 Catch per Angler Hour = 2.70
 Kg per Angler Day = 12.01 Kg per Angler Hour = 3.30

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Figure 5. Length-Frequency Histogram for Yellowtail Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 097, Quarter 3, 1984.

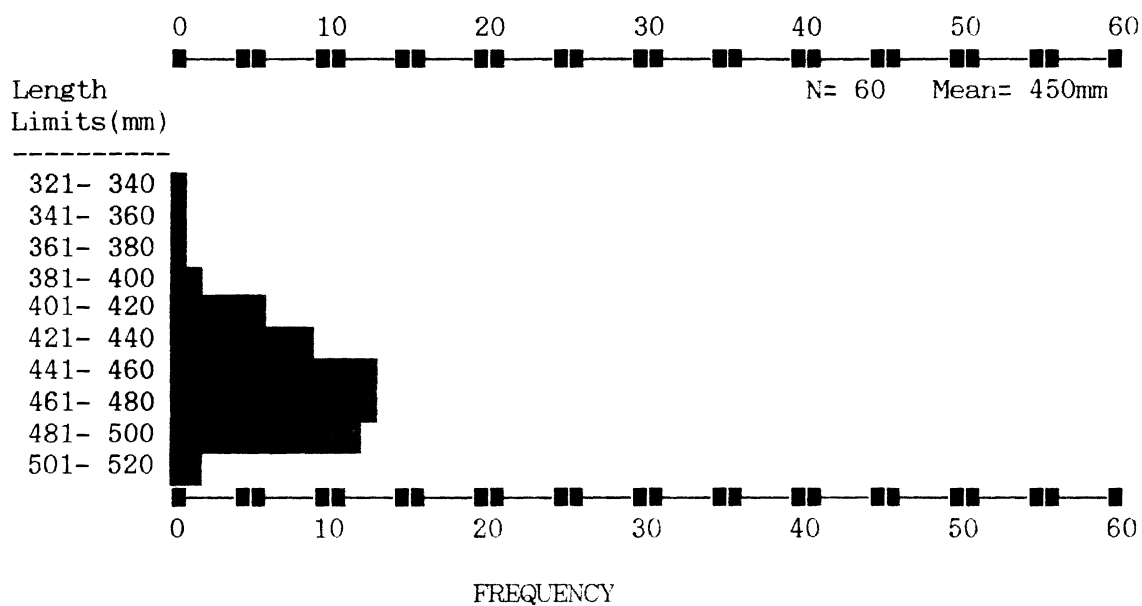


Table 46. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 22
 Total Hours Effort for Anglers Intercepted = 90.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Croaker, White	1	21	34.4
Surfperches	2	15	24.6
Perch, Shiner	3	12	19.7
Anchovy, Northern	4	8	13.1
Sculpin, Pacific Staghorn	5	3	4.9
Salmon, Chinook (King)	6	2	3.3
Total		61	100

C. CPUE

Catch per Angler Day = 2.77 Catch per Angler Hour = 0.67

Table 47. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 22
 Total Hours Effort for Anglers Intercepted = 90.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Croaker, White	1	15	88.2	0.00**	0.00
Salmon, Chinook (King)	2	2	11.8	2.85	5.70
Total		17	100		5.70

C. CPUE

Catch per Angler Day = 0.77 Catch per Angler Hour = 0.19
 Kg per Angler Day = 0.26 Kg per Angler Hour = 0.06

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 48. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 22
 Total Hours Effort for Anglers Intercepted = 90.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Salmon, Chinook (King)	1	5.70	2	%100.0	2	2.85	669	26
Total		5.70	2	100	2			

C. CPUE***

Catch per Angler Day = 0.09 Catch per Angler Hour = 0.02
 Kg per Angler Day = 0.26 Kg per Angler Hour = 0.06

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 49. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 10
 Total Hours Effort for Anglers Intercepted = 29.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Croaker, White	1	7	77.8
Sturgeons (general)	2	1	11.1
Surfperch, Walleye	3	1	11.1
Total		9	100

C. CPUE

Catch per Angler Day = 0.90 Catch per Angler Hour = 0.31

Table 50. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 10
 Total Hours Effort for Anglers Intercepted = 29.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Croaker, White	1	3	75.0	0.12	0.35
Surfperch, Walleye	2	1	25.0	0.17	0.17
Total		4	100		0.51

C. CPUE

Catch per Angler Day = 0.40 Catch per Angler Hour = 0.14
 Kg per Angler Day = 0.05 Kg per Angler Hour = 0.02

* Weight estimated from length-to-weight regression if available.

Table 51. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 10
 Total Hours Effort for Anglers Intercepted = 29.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Croaker, White	1	0.35	3	75.0	3	0.12	217	18
Surfperch, Walleye	2	0.17	1	25.0	1	0.17	215	0
Total		0.51	4	100	4			

C. CPUE***

Catch per Angler Day = 0.40 Catch per Angler Hour = 0.14
 Kg per Angler Day = 0.05 Kg per Angler Hour = 0.02

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 52. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 95
 Total Hours Effort for Anglers Intercepted = 259.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Smelt, Surf	1	180	81.8
Surfperches	2	15	6.8
Croaker, White	3	7	3.2
Anchovy, Northern	4	5	2.3
Surfperch, Walleye	5	3	1.4
Sculpin, Pacific Staghorn	6	2	0.9
Cabazon	7	2	0.9
Surfperch, Silver	8	2	0.9
Shark, Leopard	9	1	0.5
Surfperch, Barred	10	1	0.5
Surfperch, Calico	11	1	0.5
Halibut, California	12	1	0.5
Total		220	100

C. CPUE

Catch per Angler Day = 2.32 Catch per Angler Hour = 0.85

Table 53. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 95
 Total Hours Effort for Anglers Intercepted = 259.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Smelt, Surf	1	180	93.8	0.03	5.57
Surfperch, Walleye	2	3	1.6	0.16	0.48
Surfperch, Silver	3	2	1.0	0.08	0.17
Shark, Leopard	4	1	0.5	4.80	4.80
Cabazon	5	1	0.5	0.30	0.30
Croaker, White	6	1	0.5	0.10	0.10
Surfperches	7	1	0.5	0.19**	0.19
Surfperch, Barred	8	1	0.5	0.40	0.40
Surfperch, Calico	9	1	0.5	0.30	0.30
Halibut, California	10	1	0.5	0.60	0.60
Total		192	100		12.91

C. CPUE

Catch per Angler Day = 2.02 Catch per Angler Hour = 0.74
 Kg per Angler Day = 0.14 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 54. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 95
 Total Hours Effort for Anglers Intercepted = 259.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Smelt, Surf	1	5.57	180	94.7	20	0.03	169	9
Shark, Leopard	2	4.80	1	0.5	1	4.80	800	0
Halibut, California	3	0.60	1	0.5	1	0.60	384	0
Surfperch, Barred	4	0.40	1	0.5	1	0.40	265	0
Surfperch, Walleye	5	0.32	2	1.1	2	0.16	211	25
Cabazon	6	0.30	1	0.5	1	0.30	252	0
Surfperch, Calico	7	0.30	1	0.5	1	0.30	273	0
Surfperch, Silver	8	0.17	2	1.1	2	0.08	177	1
Croaker, White	9	0.10	1	0.5	1	0.10	208	0
Total		12.56	190	100	30			

C. CPUE***

Catch per Angler Day = 2.00 Catch per Angler Hour = 0.73
 Kg per Angler Day = 0.13 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 55. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 16
 Total Hours Effort for Anglers Intercepted = 45.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Smelt, Surf	1	198	%100.0
Total		198	100

C. CPUE

Catch per Angler Day = 12.38 Catch per Angler Hour = 4.35

Table 56. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 16
 Total Hours Effort for Anglers Intercepted = 45.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt.(kg)*	Weight Caught
Smelt, Surf	1	198	%100.0	0.03	5.87
Total		198	100		5.87

C. CPUE

Catch per Angler Day = 12.38 Catch per Angler Hour = 4.35
 Kg per Angler Day = 0.37 Kg per Angler Hour = 0.13

* Weight estimated from length-to-weight regression if available.

Table 57. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Beach or Bank Anglers Using Shore Net Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 16
 Total Hours Effort for Anglers Intercepted = 45.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Smelt, Surf	1	5.87	198	%100.0	36	0.03	167	6
Total		5.87	198	100	36			

C. CPUE***

Catch per Angler Day = 12.38 Catch per Angler Hour = 4.35
 Kg per Angler Day = 0.37 Kg per Angler Hour = 0.13

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 58. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 14
 Total Hours Effort for Anglers Intercepted = 77.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Brown	1	14	25.5
Rockfishes (general)	2	10	18.2
Rockfish, Canary	3	8	14.5
Rockfish, Blue	4	7	12.7
Bass, Striped	5	7	12.7
Thornyhead, Shortspine	6	3	5.5
Rockfish, Olive	7	2	3.6
Lingcod	8	2	3.6
Salmon	9	1	1.8
Sandabs	10	1	1.8
Total		55	100

C. CPUE

Catch per Angler Day = 3.93 Catch per Angler Hour = 0.71

Table 59. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 14
 Total Hours Effort for Anglers Intercepted = 77.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Brown	1	14	25.9	0.00**	0.00
Rockfishes (general)	2	10	18.5	0.00**	0.00
Rockfish, Canary	3	8	14.8	0.00**	0.00
Rockfish, Blue	4	7	13.0	0.00**	0.00
Bass, Striped	5	7	13.0	2.24	15.68
Thornyhead, Shortspine	6	3	5.6	0.00**	0.00
Rockfish, Olive	7	2	3.7	0.00**	0.00
Salmon	8	1	1.9	0.00**	0.00
Lingcod	9	1	1.9	0.00**	0.00
Sandabs	10	1	1.9	0.00**	0.00
Total		54	100		15.68

C. CPUE

Catch per Angler Day = 3.86 Catch per Angler Hour = 0.70
 Kg per Angler Day = 1.12 Kg per Angler Hour = 0.20

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 60. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 14
 Total Hours Effort for Anglers Intercepted = 77.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Bass, Striped	1	15.68	7	87.5	7	2.24	686	91
Salmon	2	0.00	1	12.5	1	0.00	538	0
Total		15.68	8	100	8			

C. CPUE***

Catch per Angler Day = 0.57 Catch per Angler Hour = 0.10
 Kg per Angler Day = 1.12 Kg per Angler Hour = 0.20

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 61. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 9
 Total Hours Effort for Anglers Intercepted = 42.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Yellowtail	1	50	58.8
Rockfish, Copper	2	9	10.6
Rockfish, Canary	3	9	10.6
Rockfish, Brown	4	3	3.5
Rockfish, Olive	5	3	3.5
Unidentified Fishes	6	2	2.4
Rockfish, Vermilion	7	2	2.4
Rockfish, Blue	8	2	2.4
Bocaccio	9	2	2.4
Salmon, Chinook (King)	10	1	1.2
Rockfish, Black	11	1	1.2
Rockfish, Speckled	12	1	1.2
Total		85	100

C. CPUE

Catch per Angler Day = 9.44 Catch per Angler Hour = 2.00

Table 62. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 9
 Total Hours Effort for Anglers Intercepted = 42.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Yellowtail	1	50	60.2	1.34	67.00
Rockfish, Copper	2	9	10.8	1.04	9.40
Rockfish, Canary	3	9	10.8	0.73	6.60
Rockfish, Brown	4	3	3.6	1.23	3.70
Rockfish, Olive	5	3	3.6	0.73	2.20
Rockfish, Vermilion	6	2	2.4	3.30	6.60
Rockfish, Blue	7	2	2.4	1.40	2.80
Bocaccio	8	2	2.4	3.20	6.40
Salmon, Chinook (King)	9	1	1.2	2.80	2.80
Rockfish, Black	10	1	1.2	1.40	1.40
Rockfish, Speckled	11	1	1.2	1.40	1.40
Total		83	100		110.30

C. CPUE

Catch per Angler Day = 9.22 Catch per Angler Hour = 1.95
 Kg per Angler Day = 12.26 Kg per Angler Hour = 2.60

* Weight estimated from length-to-weight regression if available.

Table 63. Sampled Effort, Ranked Catch and CPUE for Area 3 (Ocean) in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 9
 Total Hours Effort for Anglers Intercepted = 42.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	----Mean----		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Yellowtail	1	67.00	50	60.2	50	1.34	439	81
Rockfish, Copper	2	9.40	9	10.8	9	1.04	379	53
Rockfish, Vermilion	3	6.60	2	2.4	2	3.30	597	16
Rockfish, Canary	4	6.60	9	10.8	9	0.73	354	74
Bocaccio	5	6.40	2	2.4	2	3.20	670	1
Rockfish, Brown	6	3.70	3	3.6	3	1.23	413	4
Salmon, Chinook (King)	7	2.80	1	1.2	1	2.80	667	0
Rockfish, Blue	8	2.80	2	2.4	2	1.40	452	1
Rockfish, Olive	9	2.20	3	3.6	3	0.73	366	80
Rockfish, Black	10	1.40	1	1.2	1	1.40	456	0
Rockfish, Speckled	11	1.40	1	1.2	1	1.40	452	0
Total		110.30	83	100	83			

C. CPUE***

Catch per Angler Day = 9.22 Catch per Angler Hour = 1.95
 Kg per Angler Day = 12.26 Kg per Angler Hour = 2.60

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 64. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 290
 Total Hours Effort for Anglers Intercepted = 1052.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Sculpin, Pacific Staghorn	1	302	47.3
Croaker, White	2	58	9.1
Surfperches	3	53	8.3
Jacksmelt	4	41	6.4
Perch, Shiner	5	40	6.3
Surfperch, Walleye	6	29	4.5
Rockfishes (unidentified)	7	21	3.3
Unidentified Fishes	8	16	2.5
Goby, Yellowfin	9	16	2.5
Perch, Pile	10	12	1.9
Perch, Black	11	9	1.4
Sculpins	12	8	1.3
Rockfish, Brown	13	6	0.9
Shark, Leopard	14	5	0.8
Seaperch, Rainbow	15	5	0.8
Skate, Big	16	3	0.5
Surfperch, Silver	17	3	0.5
Bass, Striped	18	2	0.3
Seaperch, Rubberlip	19	2	0.3
Flounder, Starry	20	2	0.3
Sharks	21	1	0.2
Skates	22	1	0.2
Ray, Bat	23	1	0.2
Anchovy, Northern	24	1	0.2
Salmon	25	1	0.2
Salmon, Chinook (King)	26	1	0.2
Total		639	100

C. CPUE

Catch per Angler Day = 2.20 Catch per Angler Hour = 0.61

Table 65. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 290
 Total Hours Effort for Anglers Intercepted = 1052.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Croaker, White	1	55	19.7	0.17	9.56
Sculpin, Pacific Staghorn	2	48	17.2	0.02	0.96
Jacksmelt	3	38	13.6	0.05	1.89
Perch, Shiner	4	31	11.1	0.03	0.89
Surfperch, Walleye	5	29	10.4	0.14	4.02
Surfperches	6	19	6.8	0.15**	2.85
Perch, Pile	7	12	4.3	0.35	4.15
Goby, Yellowfin	8	11	3.9	0.00**	0.00
Perch, Black	9	9	3.2	0.27	2.41
Rockfish, Brown	10	6	2.2	0.02	0.09
Seaperch, Rainbow	11	5	1.8	0.00**	0.00
Surfperch, Silver	12	3	1.1	0.21	0.64
Shark, Leopard	13	2	0.7	4.40	8.80
Bass, Striped	14	2	0.7	1.90	3.80
Seaperch, Rubberlip	15	2	0.7	0.45	0.90
Flounder, Starry	16	2	0.7	0.16	0.33
Skate, Big	17	1	0.4	0.00**	0.00
Ray, Bat	18	1	0.4	8.30	8.30
Anchovy, Northern	19	1	0.4	0.01	0.01
Salmon	20	1	0.4	1.90	1.90
Salmon, Chinook (King)	21	1	0.4	1.30	1.30
Total		279	100		52.82

C. CPUE

Catch per Angler Day = 0.96 Catch per Angler Hour = 0.27
 Kg per Angler Day = 0.18 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 66. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 290
 Total Hours Effort for Anglers Intercepted = 1052.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Ray, Bat	1	8.30	1	0.5	1	8.30	752	0
Croaker, White	2	7.65	44	24.2	44	0.17	241	44
Shark, Leopard	3	4.40	1	0.5	1	4.40	774	0
Perch, Pile	4	4.15	12	6.6	12	0.35	266	60
Surfperch, Walleye	5	4.02	29	15.9	31	0.14	191	46
Bass, Striped	6	3.80	2	1.1	2	1.90	687	3
Perch, Black	7	2.41	9	4.9	9	0.27	234	62
Salmon	8	1.90	1	0.5	1	1.90	591	0
Jacksmelt	9	1.64	33	18.1	21	0.05	190	35
Salmon, Chinook (King)	10	1.30	1	0.5	1	1.30	517	0
Seaperch, Rubberlip	11	0.90	2	1.1	2	0.45	289	5
Perch, Shiner	12	0.81	28	15.4	30	0.03	126	22
Surfperch, Silver	13	0.64	3	1.6	3	0.21	212	76
Flounder, Starry	14	0.33	2	1.1	2	0.16	248	26
Rockfish, Brown	15	0.09	6	3.3	5	0.02	93	9
Sculpin, Pacific Staghorn	16	0.04	2	1.1	2	0.02	122	18
Anchovy, Northern	17	0.01	1	0.5	1	0.01	137	0
Seaperch, Rainbow	18	0.00	5	2.7	5	0.00	148	10
Total		42.40	182	100	173			

C. CPUE***

Catch per Angler Day = 0.63 Catch per Angler Hour = 0.17
 Kg per Angler Day = 0.15 Kg per Angler Hour = 0.04

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 67. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 25
 Total Hours Effort for Anglers Intercepted = 101.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Goby, Yellowfin	1	10	40.0
Sculpin, Pacific Staghorn	2	6	24.0
Surfperches	3	5	20.0
Perch, Black	4	3	12.0
Unidentified Fishes	5	1	4.0
Total		25	100

C. CPUE

Catch per Angler Day = 1.00 Catch per Angler Hour = 0.25

Table 68. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 25
 Total Hours Effort for Anglers Intercepted = 101.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Goby, Yellowfin	1	10	76.9	0.00**	0.00
Perch, Black	2	3	23.1	0.00**	0.00
Total		13	100		0.00

C. CPUE

Catch per Angler Day = 0.52 Catch per Angler Hour = 0.13
 Kg per Angler Day = 0.00 Kg per Angler Hour = 0.00

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 69. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 25
 Total Hours Effort for Anglers Intercepted = 101.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Total		0.00	0	0	0			

C. CPUE***

Catch per Angler Day = 0.00 Catch per Angler Hour = 0.00
 Kg per Angler Day = 0.00 Kg per Angler Hour = 0.00

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 70.. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 152
 Total Hours Effort for Anglers Intercepted = 505.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Sculpin, Pacific Staghorn	1	61	39.4
Goby, Yellowfin	2	55	35.5
Bass, Striped	3	7	4.5
Jacksmelt	4	6	3.9
Rockfishes (unidentified)	5	6	3.9
Shark, Leopard	6	5	3.2
Seaperch, Rainbow	7	4	2.6
Rockfish, Brown	8	2	1.3
Perch, Shiner	9	2	1.3
Unidentified Fishes	10	1	0.6
Sharks	11	1	0.6
Smoothhound, Gray	12	1	0.6
Skates	13	1	0.6
Stingrays	14	1	0.6
Ray, Bat	15	1	0.6
Perch, Black	16	1	0.6
Total		155	100

C. CPUE

Catch per Angler Day = 1.02 Catch per Angler Hour = 0.31

Table 71. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 152
 Total Hours Effort for Anglers Intercepted = 505.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Goby, Yellowfin	1	46	58.2	0.03	1.30
Sculpin, Pacific Staghorn	2	11	13.9	0.00**	0.00
Jacksmelt	3	5	6.3	0.07	0.34
Seaperch, Rainbow	4	4	5.1	0.00**	0.00
Shark, Leopard	5	3	3.8	0.00**	0.00
Bass, Striped	6	3	3.8	0.80	2.40
Rockfish, Brown	7	2	2.5	0.03	0.07
Perch, Shiner	8	2	2.5	0.04	0.08
Smoothhound, Gray	9	1	1.3	0.00**	0.00
Ray, Bat	10	1	1.3	3.60	3.60
Perch, Black	11	1	1.3	0.20	0.20
Total		79	100		7.99

C. CPUE

Catch per Angler Day = 0.52 Catch per Angler Hour = 0.16
 Kg per Angler Day = 0.05 Kg per Angler Hour = 0.02

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 72. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 152
 Total Hours Effort for Anglers Intercepted = 505.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Ray, Bat	1	3.60	1	1.6	1	3.60	572	0
Bass, Striped	2	2.40	3	4.8	3	0.80	584	77
Goby, Yellowfin	3	1.30	46	73.0	46	0.03	151	19
Jacksmelt	4	0.20	3	4.8	3	0.07	213	33
Perch, Black	5	0.20	1	1.6	1	0.20	219	0
Perch, Shiner	6	0.08	2	3.2	2	0.04	140	30
Rockfish, Brown	7	0.07	2	3.2	2	0.03	120	11
Shark, Leopard	8	0.00	1	1.6	1	0.00	354	0
Seaperch, Rainbow	9	0.00	4	6.3	4	0.00	162	37
Total		7.85	63	100	63			

C. CPUE***

Catch per Angler Day = 0.41 Catch per Angler Hour = 0.12
 Kg per Angler Day = 0.05 Kg per Angler Hour = 0.02

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 73. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 240
 Total Hours Effort for Anglers Intercepted = 1219.2

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Brown	1	95	20.4
Sculpin, Pacific Staghorn	2	75	16.1
Sharks	3	51	10.9
Shark, Leopard	4	49	10.5
Rockfish, Black	5	41	8.8
Bass, Striped	6	40	8.6
Stingrays	7	18	3.9
Smoothhound, Brown	8	16	3.4
Rockfishes (general)	9	13	2.8
Croaker, White	10	12	2.6
Rockfishes (unidentified)	11	8	1.7
Surfperches	12	7	1.5
Flounder, Starry	13	7	1.5
Sturgeons (general)	14	5	1.1
Goby, Yellowfin	15	4	0.9
Skates	16	3	0.6
Surfperch, Silver	17	3	0.6
Smoothhound, Gray	18	2	0.4
Sturgeon, White	19	2	0.4
Lingcod	20	2	0.4
Perch, Black	21	2	0.4
Seaperch, Rainbow	22	2	0.4
Unidentified Fishes	23	1	0.2
Shark, Soupfin	24	1	0.2
Skate, Big	25	1	0.2
Stingray, Pelagic	26	1	0.2

(Table 73. - continued)

Common name	Rank by Number	Number Caught	% by Number
Ray, Bat	27	1	0.2
Jacksmelt	28	1	0.2
Gobies	29	1	0.2
Bonito, Pacific	30	1	0.2
Flounders, Righteye	31	1	0.2
Total		466	100

C. CPUE

Catch per Angler Day = 1.94 Catch per Angler Hour = 0.38

Table 74. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 240
 Total Hours Effort for Anglers Intercepted = 1219.2

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Brown	1	88	40.9	0.17	15.00
Rockfish, Black	2	35	16.3	0.42	14.70
Bass, Striped	3	29	13.5	1.57	45.40
Smoothhound, Brown	4	12	5.6	3.45	41.40
Sculpin, Pacific Staghorn	5	12	5.6	0.00**	0.00
Croaker, White	6	10	4.7	0.29	2.93
Shark, Leopard	7	5	2.3	3.43	17.13
Flounder, Starry	8	5	2.3	0.22	1.11
Surfperch, Silver	9	3	1.4	0.30	0.90
Sturgeon, White	10	2	0.9	13.55	27.10
Perch, Black	11	2	0.9	0.13	0.25
Seaperch, Rainbow	12	2	0.9	0.30	0.60
Goby, Yellowfin	13	2	0.9	0.05	0.10
Smoothhound, Gray	14	1	0.5	0.00**	0.00
Skates	15	1	0.5	6.70**	6.70
Ray, Bat	16	1	0.5	6.70	6.70
Rockfishes (unidentified)	17	1	0.5	0.14	0.14
Lingcod	18	1	0.5	2.20	2.20
Surfperches	19	1	0.5	0.25**	0.25
Gobies	20	1	0.5	0.05**	0.05
Bonito, Pacific	21	1	0.5	0.00**	0.00
Total		215	100		182.65

C. CPUE

Catch per Angler Day = 0.90 Catch per Angler Hour = 0.18
 Kg per Angler Day = 0.76 Kg per Angler Hour = 0.15

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 75. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 240
 Total Hours Effort for Anglers Intercepted = 1219.2

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Bass, Striped	1	45.40	29	15.7	29	1.57	632	94
Sturgeon, White	2	27.10	2	1.1	2	13.55	1253	262
Rockfish, Brown	3	15.00	88	47.6	59	0.17	201	45
Rockfish, Black	4	14.70	35	18.9	10	0.42	299	23
Shark, Leopard	5	13.70	4	2.2	4	3.43	706	79
Smoothhound, Brown	6	6.90	2	1.1	2	3.45	716	35
Ray, Bat	7	6.70	1	0.5	1	6.70	702	0
Croaker, White	8	2.93	10	5.4	10	0.29	292	30
Lingcod	9	2.20	1	0.5	1	2.20	585	0
Surfperch, Silver	10	0.90	3	1.6	3	0.30	262	19
Flounder, Starry	11	0.66	3	1.6	3	0.22	265	56
Seaperch, Rainbow	12	0.60	2	1.1	2	0.30	257	4
Perch, Black	13	0.25	2	1.1	2	0.13	181	13
Rockfishes (unidentified)	14	0.14	1	0.5	1	0.14	226	0
Goby, Yellowfin	15	0.10	2	1.1	2	0.05	185	3
Total		137.28	185	100	131			

C. CPUE***

Catch per Angler Day = 0.77 Catch per Angler Hour = 0.15
 Kg per Angler Day = 0.57 Kg per Angler Hour = 0.11

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 76. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Spear Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 6
 Total Hours Effort for Anglers Intercepted = 11.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Halibut, California	1	2	%100.0
Total		2	100

C. CPUE

Catch per Angler Day = 0.33 Catch per Angler Hour = 0.18

Table 77. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Spear Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 6
 Total Hours Effort for Anglers Intercepted = 11.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt.(kg)*	Weight Caught
Halibut, California	1	2	%100.0	3.60	7.20
Total		2	100		7.20

C. CPUE

Catch per Angler Day = 0.33 Catch per Angler Hour = 0.18
 Kg per Angler Day = 1.20 Kg per Angler Hour = 0.65

* Weight estimated from length-to-weight regression if available.

Table 78. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Spear Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 6
 Total Hours Effort for Anglers Intercepted = 11.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Halibut, California	1	7.20	2	%100.0	2	3.60	699	22
Total		7.20	2	100	2			

C. CPUE***

Catch per Angler Day = 0.33 Catch per Angler Hour = 0.18
 Kg per Angler Day = 1.20 Kg per Angler Hour = 0.65

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 79. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 16
 Total Hours Effort for Anglers Intercepted = 111.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfishes (general)	1	16	51.6
Bass, Striped	2	8	25.8
Sturgeons (general)	3	4	12.9
Rockfish, Brown	4	2	6.5
Sturgeon, White	5	1	3.2
Total		31	100

C. CPUE

Catch per Angler Day = 1.94 Catch per Angler Hour = 0.28

Table 80. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 16
 Total Hours Effort for Anglers Intercepted = 111.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Bass, Striped	1	7	70.0	1.71	12.00
Rockfish, Brown	2	2	20.0	0.75	1.50
Sturgeon, White	3	1	10.0	11.30	11.30
Total		10	100		24.80

C. CPUE

Catch per Angler Day = 0.63 Catch per Angler Hour = 0.09
 Kg per Angler Day = 1.55 Kg per Angler Hour = 0.22

* Weight estimated from length-to-weight regression if available.

Table 81. Sampled Effort, Ranked Catch and CPUE for Area 3 (Bay) in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 16
 Total Hours Effort for Anglers Intercepted = 111.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Bass, Striped	1	12.00	7	70.0	7	1.71	655	88
Sturgeon, White	2	11.30	1	10.0	1	11.30	1215	0
Rockfish, Brown	3	1.50	2	20.0	2	0.75	350	35
Total		24.80	10	100	10			

C. CPUE***

Catch per Angler Day = 0.63 Catch per Angler Hour = 0.09
 Kg per Angler Day = 1.55 Kg per Angler Hour = 0.22

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 82. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 154
 Total Hours Effort for Anglers Intercepted = 465.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Bocaccio	1	265	32.3
Sculpin, Pacific Staghorn	2	200	24.4
Mackerel, Pacific (Chub)	3	84	10.2
Jacksmelt	4	74	9.0
Surfperches	5	44	5.4
Unidentified Fishes	6	37	4.5
Perch, Shiner	7	21	2.6
Surfperch, Walleye	8	21	2.6
Rockfishes (general)	9	19	2.3
Lizardfish, California	10	9	1.1
Jack Mackerel	11	8	1.0
Croaker, White	12	7	0.9
Senorita	13	7	0.9
Rockfish, Brown	14	5	0.6
Flounders, Lefteye	15	3	0.4
Sunfish, Ocean	16	3	0.4
Anchovy, Northern	17	2	0.2
Rockfish, Grass	18	2	0.2
Sole, Sand	19	2	0.2
Sharks	20	1	0.1
Electric Ray, Pacific	21	1	0.1
Rockfish, Blue	22	1	0.1
Rockfish, Black-and-yellow	23	1	0.1
Seaperch, White	24	1	0.1
Sanddab, Pacific	25	1	0.1
Sanddab, Speckled	26	1	0.1
Total		820	100

C. CPUE

Catch per Angler Day = 5.32 Catch per Angler Hour = 1.76

Table 83. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 154
 Total Hours Effort for Anglers Intercepted = 465.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Bocaccio	1	166	40.8	0.02	3.80
Jacksmelt	2	71	17.4	0.23	16.45
Mackerel, Pacific (Chub)	3	62	15.2	0.26	16.40
Sculpin, Pacific Staghorn	4	20	4.9	0.02	0.34
Rockfishes (general)	5	18	4.4	0.01	0.26
Perch, Shiner	6	17	4.2	0.03	0.58
Surfperch, Walleye	7	17	4.2	0.08	1.28
Surfperches	8	9	2.2	0.06**	0.54
Jack Mackerel	9	8	2.0	0.17	1.37
Lizardfish, California	10	3	0.7	0.03	0.10
Sunfish, Ocean	11	3	0.7	0.00**	0.00
Unidentified Fishes	12	2	0.5	0.00**	0.00
Rockfish, Grass	13	2	0.5	0.45	0.90
Senorita	14	2	0.5	0.06	0.12
Sole, Sand	15	2	0.5	0.20	0.40
Electric Ray, Pacific	16	1	0.2	0.00**	0.00
Rockfish, Blue	17	1	0.2	0.01	0.01
Rockfish, Black-and-yellow	18	1	0.2	0.20	0.20
Seaperch, White	19	1	0.2	0.21	0.21
Sanddab, Speckled	20	1	0.2	0.02	0.02
Total		407	100		42.96

C. CPUE

Catch per Angler Day = 2.64 Catch per Angler Hour = 0.88
 Kg per Angler Day = 0.28 Kg per Angler Hour = 0.09

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 84. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 154
 Total Hours Effort for Anglers Intercepted = 465.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Mackerel, Pacific (Chub)	1	10.58	40	14.1	38	0.26	271	39
Jacksmelt	2	5.79	25	8.8	25	0.23	293	78
Bocaccio	3	3.41	149	52.5	73	0.02	132	22
Jack Mackerel	4	1.37	8	2.8	8	0.17	223	79
Surfperch, Walleye	5	0.98	13	4.6	13	0.08	172	16
Rockfish, Grass	6	0.90	2	0.7	2	0.45	274	16
Perch, Shiner	7	0.58	17	6.0	16	0.03	137	7
Sole, Sand	8	0.40	2	0.7	2	0.20	242	4
Seaperch, White	9	0.21	1	0.4	1	0.21	257	0
Rockfish, Black-and-yellow	10	0.20	1	0.4	1	0.20	224	0
Sculpin, Pacific Staghorn	11	0.13	8	2.8	8	0.02	115	7
Rockfishes (general)	12	0.13	9	3.2	4	0.01	110	8
Senorita	13	0.12	2	0.7	2	0.06	179	20
Lizardfish, California	14	0.10	3	1.1	3	0.03	163	20
Sanddab, Speckled	15	0.02	1	0.4	1	0.02	113	0
Rockfish, Blue	16	0.01	1	0.4	1	0.01	97	0
Unidentified Fishes	17	0.00	2	0.7	2	0.00	109	23
Total		24.93	284	100	200			

C. CPUE***

Catch per Angler Day = 1.84 Catch per Angler Hour = 0.61
 Kg per Angler Day = 0.16 Kg per Angler Hour = 0.05

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 85. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 27
 Total Hours Effort for Anglers Intercepted = 78.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Sculpin, Pacific Staghorn	1	225	86.2
Mackerel, Pacific (Chub)	2	21	8.0
Anchovy, Northern	3	5	1.9
Surfperches	4	4	1.5
Jacksmelt	5	3	1.1
Surfperch, Walleye	6	2	0.8
Cabezon	7	1	0.4
Total		261	100

C. CPUE

Catch per Angler Day = 9.67 Catch per Angler Hour = 3.35

Table 86. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 27
 Total Hours Effort for Anglers Intercepted = 78.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt.(kg)*	Weight Caught
Mackerel, Pacific (Chub)	1	19	79.2	0.48	9.10
Surfperches	2	2	8.3	0.06**	0.12
Surfperch, Walleye	3	2	8.3	0.06	0.12
Cabazon	4	1	4.2	0.09	0.09
Total		24	100		9.43

C. CPUE

Catch per Angler Day = 0.89 Catch per Angler Hour = 0.31
 Kg per Angler Day = 0.35 Kg per Angler Hour = 0.12

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 87. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 27
 Total Hours Effort for Anglers Intercepted = 78.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Mackerel, Pacific (Chub)	1	9.10	19	86.4	10	0.48	328	23
Surfperch, Walleye	2	0.12	2	9.1	2	0.06	165	1
Cabazon	3	0.09	1	4.5	1	0.09	162	0
Total		9.31	22	100	13			

C. CPUE***

Catch per Angler Day = 0.81 Catch per Angler Hour = 0.28
 Kg per Angler Day = 0.34 Kg per Angler Hour = 0.12

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 88. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 207
 Total Hours Effort for Anglers Intercepted = 606.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Barred	1	318	31.4
Anchovy, Northern	2	212	20.9
Mackerel, Pacific (Chub)	3	138	13.6
Sculpin, Pacific Staghorn	4	103	10.2
Jacksmelt	5	84	8.3
Surfperches	6	74	7.3
Surfperch, Walleye	7	18	1.8
Surfperch, Silver	8	13	1.3
Bass, Striped	9	10	1.0
Croaker, White	10	7	0.7
Rockfish, Grass	11	5	0.5
Perch, Black	12	5	0.5
Flounder, Starry	13	5	0.5
Bocaccio	14	3	0.3
Barracuda, Pacific	15	3	0.3
Rockfish, Black-and-yellow	16	2	0.2
Cabazon	17	2	0.2
Sanddab, Speckled	18	2	0.2
Shark, Leopard	19	1	0.1
Lingcod	20	1	0.1
Seaperch, Striped	21	1	0.1
Perch, Pile	22	1	0.1
Surfperch, Calico	23	1	0.1
Clinids	24	1	0.1
Kelpfish, Striped	25	1	0.1
Flounders, Lefteye	26	1	0.1
Total		1012	100

C. CPUE

Catch per Angler Day = 4.89 Catch per Angler Hour = 1.67

Table 89. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 207
 Total Hours Effort for Anglers Intercepted = 606.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Barred	1	245	32.8	0.17	40.61
Anchovy, Northern	2	199	26.7	0.00	0.82
Mackerel, Pacific (Chub)	3	130	17.4	0.39	50.42
Jacksmelt	4	68	9.1	0.30	20.62
Sculpin, Pacific Staghorn	5	18	2.4	0.02	0.39
Surfperches	6	16	2.1	0.16**	2.56
Surfperch, Silver	7	13	1.7	0.09	1.19
Surfperch, Walleye	8	11	1.5	0.11	1.20
Bass, Striped	9	9	1.2	2.30	20.70
Croaker, White	10	7	0.9	0.19	1.35
Rockfish, Grass	11	5	0.7	0.48	2.40
Perch, Black	12	5	0.7	0.24	1.20
Flounder, Starry	13	5	0.7	0.92	4.60
Bocaccio	14	2	0.3	0.00**	0.00
Rockfish, Black-and-yellow	15	2	0.3	0.13	0.25
Cabazon	16	2	0.3	0.13	0.26
Sanddab, Speckled	17	2	0.3	0.03	0.06
Shark, Leopard	18	1	0.1	0.40	0.40
Lingcod	19	1	0.1	0.00**	0.00
Seaperch, Striped	20	1	0.1	0.30	0.30
Perch, Pile	21	1	0.1	0.50	0.50
Surfperch, Calico	22	1	0.1	0.09	0.09
Kelpfish, Striped	23	1	0.1	0.00**	0.00
Flounders, Lefteye	24	1	0.1	0.03**	0.03
Total		746	100		149.96

C. CPUE

Catch per Angler Day = 3.60 Catch per Angler Hour = 1.23
 Kg per Angler Day = 0.72 Kg per Angler Hour = 0.25

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 90. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 207
 Total Hours Effort for Anglers Intercepted = 606.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Barred	1	38.79	234	36.9	179	0.17	199	39
Mackerel, Pacific (Chub)	2	32.97	85	13.4	25	0.39	308	21
Bass, Striped	3	20.70	9	1.4	9	2.30	732	53
Jacksmelt	4	12.13	40	6.3	29	0.30	338	23
Flounder, Starry	5	4.60	5	0.8	5	0.92	403	83
Rockfish, Grass	6	2.40	5	0.8	5	0.48	274	37
Croaker, White	7	1.35	7	1.1	7	0.19	257	24
Surfperch, Walleye	8	1.20	11	1.7	11	0.11	188	26
Perch, Black	9	1.20	5	0.8	5	0.24	235	18
Surfperch, Silver	10	1.19	13	2.1	13	0.09	180	16
Anchovy, Northern	11	0.81	197	31.1	10	0.00	92	5
Perch, Pile	12	0.50	1	0.2	1	0.50	308	0
Shark, Leopard	13	0.40	1	0.2	1	0.40	335	0
Seaperch, Striped	14	0.30	1	0.2	1	0.30	272	0
Sculpin, Pacific Staghorn	15	0.28	13	2.1	13	0.02	125	13
Rockfish, Black-and-yellow	16	0.25	2	0.3	2	0.13	193	19
Cabazon	17	0.13	1	0.2	1	0.13	186	0
Surfperch, Calico	18	0.09	1	0.2	1	0.09	182	0
Sanddab, Speckled	19	0.06	2	0.3	2	0.03	140	3
Kelpfish, Striped	20	0.00	1	0.2	1	0.00	186	0
Total		119.36	634	100	321			

C. CPUE***

Catch per Angler Day = 3.06 Catch per Angler Hour = 1.05
 Kg per Angler Day = 0.58 Kg per Angler Hour = 0.20

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 91. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Beach or Bank Anglers Using Spear Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 7
 Total Hours Effort for Anglers Intercepted = 7.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperches	1	6	66.7
Rockfishes (general)	2	2	22.2
Halibut, California	3	1	11.1
Total		9	100

C. CPUE

Catch per Angler Day = 1.29 Catch per Angler Hour = 1.29

Table 92. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Beach or Bank Anglers Using Spear Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 7
 Total Hours Effort for Anglers Intercepted = 7.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperches	1	6	66.7	0.18**	1.08
Rockfishes (general)	2	2	22.2	0.00**	0.00
Halibut, California	3	1	11.1	4.50	4.50
Total		9	100		5.58

C. CPUE

Catch per Angler Day = 1.29 Catch per Angler Hour = 1.29
 Kg per Angler Day = 0.80 Kg per Angler Hour = 0.80

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 93. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Beach or Bank Anglers Using Spear Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 7
 Total Hours Effort for Anglers Intercepted = 7.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	Wt.* (kg)	Ln.** (mm)	SD LN.
Halibut, California	1	4.50	1	%100.0	1	4.50	755	0
Total		4.50	1	100	1			

C. CPUE***

Catch per Angler Day = 0.14 Catch per Angler Hour = 0.14
 Kg per Angler Day = 0.64 Kg per Angler Hour = 0.64

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 94. Sampled Effort, Ranked Catch and CPUE for Area 4
in 1984 for Quarter 3, by Private or Rental Boat Anglers Using
Hook-and-Line Gear. Catch Represents All Fish Captured,
Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	205
Total Hours Effort for Anglers Intercepted	=	943.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Mackerel, Pacific (Chub)	1	968	23.4
Croaker, White	2	923	22.3
Rockfish, Blue	3	640	15.5
Rockfishes (general)	4	393	9.5
Rockfish, Brown	5	311	7.5
Sanddab, Pacific	6	158	3.8
Rockfish, Gopher	7	156	3.8
Rockfish, Yellowtail	8	73	1.8
Unidentified Fishes	9	72	1.7
Rockfish, Black	10	45	1.1
Rockfish, Rosy	11	41	1.0
Rockfish, Olive	12	34	0.8
Lingcod	13	29	0.7
Sculpin, Pacific Staghorn	14	28	0.7
Rockfish, Canary	15	27	0.7
Rockfish, Grass	16	27	0.7
Rockfish, Kelp	17	26	0.6
Rockfish, Vermilion	18	20	0.5
Bocaccio	19	18	0.4
Rockfish, Black-and-yellow	20	18	0.4
Rockfish, Copper	21	15	0.4
Rockfish, Starry	22	15	0.4
Sharks	23	9	0.2
Hake, Pacific	24	9	0.2
Jack Mackerel	25	8	0.2
Flounders, Lefteye	26	8	0.2

(Table 94. - continued)

Common name	Rank by Number	Number Caught	% by Number
Flounder, Starry	27	8	0.2
Seaperch, White	28	6	0.1
Sole, Rock	29	6	0.1
Greenling, Kelp	30	5	0.1
Rockfish, China	31	4	0.1
Spiny Dogfish	32	3	0.1
Jacksmelt	33	3	0.1
Rockfish, Greenstriped	34	3	0.1
Rockfish, Yelloweye	35	3	0.1
Sanddab, Speckled	36	3	0.1
Salmon, Chinook (King)	37	2	0.0
Cabazon	38	2	0.0
Sole, Sand	39	2	0.0
Thresher, Common	40	1	0.0
Shark, Blue	41	1	0.0
Skates	42	1	0.0
Rockfish, Greenspotted	43	1	0.0
Sablefish	44	1	0.0
Whitefish, Ocean	45	1	0.0
Seaperch, Striped	46	1	0.0
Senorita	47	1	0.0
Wolf-eel	48	1	0.0
Total		4130	100

C. CPUE

Catch per Angler Day = 20.15 Catch per Angler Hour = 4.38

Table 95. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 205
 Total Hours Effort for Anglers Intercepted = 943.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Croaker, White	1	875	26.2	0.20	176.41
Mackerel, Pacific (Chub)	2	837	25.1	0.40	336.92
Rockfish, Blue	3	540	16.2	0.27	144.96
Rockfish, Brown	4	250	7.5	0.40	99.39
Rockfish, Gopher	5	156	4.7	0.29	45.04
Sanddab, Pacific	6	141	4.2	0.11	14.93
Rockfishes (general)	7	98	2.9	0.32**	31.36
Rockfish, Yellowtail	8	69	2.1	0.23	15.57
Rockfish, Black	9	45	1.3	0.32	14.27
Rockfish, Rosy	10	41	1.2	0.17	6.77
Rockfish, Olive	11	34	1.0	0.50	17.10
Rockfish, Canary	12	27	0.8	0.24	6.57
Rockfish, Grass	13	27	0.8	0.78	21.06
Rockfish, Kelp	14	26	0.8	0.48	12.50
Rockfish, Vermilion	15	20	0.6	0.55	11.00
Lingcod	16	19	0.6	2.54	48.28
Rockfish, Black-and-yellow	17	18	0.5	0.34	6.05
Rockfish, Copper	18	15	0.4	0.40	6.00
Rockfish, Starry	19	15	0.4	0.46	6.88
Hake, Pacific	20	9	0.3	0.99	8.90
Jack Mackerel	21	8	0.2	0.30	2.40
Flounder, Starry	22	8	0.2	1.39	11.10
Seaperch, White	23	6	0.2	0.18	1.06
Sole, Rock	24	6	0.2	0.62	3.70
Greenling, Kelp	25	5	0.1	0.44	2.20
Rockfish, China	26	4	0.1	0.33	1.34
Unidentified Fishes	27	3	0.1	0.00**	0.00

(Table 95. - continued)

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Spiny Dogfish	28	3	0.1	2.37	7.10
Jacksmelt	29	3	0.1	0.28	0.84
Rockfish, Greenstriped	30	3	0.1	0.21	0.64
Rockfish, Yelloweye	31	3	0.1	0.28	0.84
Flounders, Lefteye	32	3	0.1	0.10**	0.30
Sanddab, Speckled	33	3	0.1	0.03	0.08
Salmon, Chinook (King)	34	2	0.1	4.15	8.30
Cabezon	35	2	0.1	0.94	1.87
Sole, Sand	36	2	0.1	0.45	0.90
Thresher, Common	37	1	0.0	27.90	27.90
Shark, Blue	38	1	0.0	79.00	79.00
Bocaccio	39	1	0.0	0.04	0.04
Rockfish, Greenspotted	40	1	0.0	0.30	0.30
Sablefish	41	1	0.0	0.30	0.30
Whitefish, Ocean	42	1	0.0	0.70	0.70
Seaperch, Striped	43	1	0.0	0.50	0.50
Senorita	44	1	0.0	0.08	0.08
Wolf-eel	45	1	0.0	24.40	24.40
Total		3335	100		1205.86

C. CPUE

Catch per Angler Day = 16.27 Catch per Angler Hour = 3.54
 Kg per Angler Day = 5.88 Kg per Angler Hour = 1.28

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 96. Sampled Effort, Ranked Catch and CPUE for Area 4
in 1984 for Quarter 3, by Private or Rental Boat Anglers Using
Hook-and-Line Gear. Catch Represents Only the Fish
Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 205
Total Hours Effort for Anglers Intercepted = 943.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Mackerel, Pacific (Chub)	1	316.80	787	25.3	179	0.40	309	31
Croaker, White	2	176.41	875	28.2	64	0.20	258	28
Rockfish, Blue	3	131.00	488	15.7	228	0.27	255	38
Rockfish, Brown	4	99.39	250	8.0	166	0.40	271	55
Shark, Blue	5	79.00	1	0.0	1	79.00	2700	0
Rockfish, Gopher	6	45.04	156	5.0	145	0.29	257	34
Lingcod	7	43.20	17	0.5	17	2.54	613	45
Thresher, Common	8	27.90	1	0.0	1	27.90	1950	0
Wolf-eel	9	24.40	1	0.0	1	24.40	1360	0
Rockfish, Grass	10	21.06	27	0.9	25	0.78	313	66
Rockfish, Olive	11	16.60	33	1.1	33	0.50	324	69
Rockfish, Yellowtail	12	14.89	66	2.1	40	0.23	247	35
Sanddab, Pacific	13	13.34	126	4.1	78	0.11	209	37
Rockfish, Black	14	13.00	41	1.3	41	0.32	275	27
Rockfish, Kelp	15	12.50	26	0.8	26	0.48	316	27
Flounder, Starry	16	11.10	8	0.3	8	1.39	458	85
Rockfish, Vermilion	17	11.00	20	0.6	20	0.55	316	51
Hake, Pacific	18	8.90	9	0.3	9	0.99	503	35
Salmon, Chinook (King)	19	8.30	2	0.1	2	4.15	746	144
Spiny Dogfish	20	7.10	3	0.1	3	2.37	868	126
Rockfish, Starry	21	6.88	15	0.5	15	0.46	298	46
Rockfish, Rosy	22	6.77	41	1.3	34	0.17	215	18
Rockfish, Canary	23	6.57	27	0.9	27	0.24	251	39
Rockfish, Black-and-yellow	24	6.05	18	0.6	18	0.34	259	29
Rockfish, Copper	25	5.60	14	0.5	14	0.40	271	58
Sole, Rock	26	3.70	6	0.2	6	0.62	345	79

(Table 96. - continued)

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	----Mean----		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Jack Mackerel	27	2.40	8	0.3	8	0.30	295	13
Greenling, Kelp	28	2.20	5	0.2	5	0.44	309	49
Cabezon	29	1.87	2	0.1	2	0.94	383	4
Rockfish, China	30	1.34	4	0.1	4	0.33	259	45
Seaperch, White	31	1.06	6	0.2	6	0.18	238	28
Sole, Sand	32	0.90	2	0.1	2	0.45	320	57
Rockfish, Yelloweye	33	0.84	3	0.1	3	0.28	234	81
Jacksmelt	34	0.84	3	0.1	3	0.28	327	39
Whitefish, Ocean	35	0.70	1	0.0	1	0.70	402	0
Rockfish, Greenstriped	36	0.64	3	0.1	3	0.21	264	37
Seaperch, Striped	37	0.50	1	0.0	1	0.50	310	0
Rockfish, Greenspotted	38	0.30	1	0.0	1	0.30	265	0
Sablefish	39	0.30	1	0.0	1	0.30	307	0
Senorita	40	0.08	1	0.0	1	0.08	197	0
Sanddab, Speckled	41	0.08	3	0.1	3	0.03	130	9
Bocaccio	42	0.04	1	0.0	1	0.04	167	0
Unidentified Fishes	43	0.00	3	0.1	3	0.00	270	22
Rockfishes (general)	44	0.00	1	0.0	0	0.00	0	0
Flounders, Lefteye	45	0.00	1	0.0	1	0.00	265	0
Total		1130.60	3108	100	1250			

C. CPUE***

Catch per Angler Day = 15.16 Catch per Angler Hour = 3.30
 Kg per Angler Day = 5.52 Kg per Angler Hour = 1.20

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 97. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by Private or Rental Boat Anglers Using Spear Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 17
 Total Hours Effort for Anglers Intercepted = 16.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Black	1	6	20.7
Rockfish, Kelp	2	4	13.8
Rockfish, Olive	3	3	10.3
Greenling, Kelp	4	3	10.3
Cabazon	5	3	10.3
Rockfish, Blue	6	2	6.9
Rockfish, Gopher	7	2	6.9
Lingcod	8	2	6.9
Perch, Pile	9	2	6.9
Perch, Black	10	1	3.4
Seaperch, Rubberlip	11	1	3.4
Total		29	100

C. CPUE

Catch per Angler Day = 1.71 Catch per Angler Hour = 1.76

Table 98. Sampled Effort, Ranked Catch and CPUE for Area 4
in 1984 for Quarter 3, by Private or Rental Boat Anglers Using
Spear Gear. Catch Represents Number Landed
and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 17
Total Hours Effort for Anglers Intercepted = 16.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Black	1	6	20.7	0.38	2.30
Rockfish, Kelp	2	4	13.8	0.48	1.90
Rockfish, Olive	3	3	10.3	0.30	0.90
Greenling, Kelp	4	3	10.3	0.40	1.20
Cabazon	5	3	10.3	0.92	2.75
Rockfish, Blue	6	2	6.9	0.64	1.28
Rockfish, Gopher	7	2	6.9	0.28	0.56
Lingcod	8	2	6.9	2.00	4.00
Perch, Pile	9	2	6.9	0.60	1.20
Perch, Black	10	1	3.4	0.50	0.50
Seaperch, Rubberlip	11	1	3.4	0.70	0.70
Total		29	100		17.28

C. CPUE

Catch per Angler Day = 1.71 Catch per Angler Hour = 1.76
Kg per Angler Day = 1.02 Kg per Angler Hour = 1.05

* Weight estimated from length-to-weight regression if available.

Table 99. Sampled Effort, Ranked Catch and CPUE for Area 4
in 1984 for Quarter 3, by Private or Rental Boat Anglers Using
Spear Gear. Catch Represents Only the Fish
Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 17
Total Hours Effort for Anglers Intercepted = 16.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Lingcod	1	4.00	2	6.9	2	2.00	571	41
Cabezon	2	2.75	3	10.3	3	0.92	379	17
Rockfish, Black	3	2.30	6	20.7	6	0.38	291	11
Rockfish, Kelp	4	1.90	4	13.8	4	0.48	319	30
Rockfish, Blue	5	1.28	2	6.9	2	0.64	346	37
Greenling, Kelp	6	1.20	3	10.3	3	0.40	308	23
Perch, Pile	7	1.20	2	6.9	2	0.60	330	7
Rockfish, Olive	8	0.90	3	10.3	3	0.30	284	9
Seaperch, Rubberlip	9	0.70	1	3.4	1	0.70	331	0
Rockfish, Gopher	10	0.56	2	6.9	2	0.28	258	25
Perch, Black	11	0.50	1	3.4	1	0.50	308	0
Total		17.28	29	100	29			

C. CPUE***

Catch per Angler Day = 1.71 Catch per Angler Hour = 1.76
Kg per Angler Day = 1.02 Kg per Angler Hour = 1.05

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 100. Sampled Effort, Ranked Catch and CPUE for Area 4
in 1984 for Quarter 3, by All CPFV Anglers Using
Hook-and-Line Gear. Catch Represents All Fish Captured,
Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 164
Total Hours Effort for Anglers Intercepted = 689.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	794	26.0
Chilipepper	2	546	17.9
Rockfishes (general)	3	332	10.9
Mackerel, Pacific (Chub)	4	293	9.6
Rockfish, Yellowtail	5	273	8.9
Rockfish, Rosy	6	113	3.7
Rockfish, Copper	7	100	3.3
Rockfish, Widow	8	83	2.7
Rockfish, Greenspotted	9	57	1.9
Rockfish, Greenstriped	10	52	1.7
Tuna, Albacore	11	46	1.5
Rockfish, Canary	12	44	1.4
Hake, Pacific	13	41	1.3
Rockfish, Starry	14	33	1.1
Bocaccio	15	32	1.0
Sablefish	16	30	1.0
Sanddab, Pacific	17	30	1.0
Rockfish, Squarespot	18	28	0.9
Rockfish, Brown	19	18	0.6
Rockfish, Vermilion	20	17	0.6
Lingcod	21	17	0.6
Rockfish, Speckled	22	13	0.4
Shark, Blue	23	11	0.4
Rockfish, Olive	24	11	0.4
Rockfish, Yelloweye	25	9	0.3
Rockfish, Flag	26	5	0.2

(Table 100. - continued)

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Gopher	27	4	0.1
Rockfish, Stripetail	28	3	0.1
Rockfish, Swordspine	29	3	0.1
Bonito, Pacific	30	3	0.1
Sole, Rock	31	3	0.1
Rockfish, Rosethorn	32	2	0.1
Jack Mackerel	33	2	0.1
Flounders, Lefteye	34	2	0.1
Rockfish, Quillback	35	1	0.0
Rockfish, China	36	1	0.0
Total		3052	100

C. CPUE

Catch per Angler Day = 18.61 Catch per Angler Hour = 4.43

Table 101. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 164
 Total Hours Effort for Anglers Intercepted = 689.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	609	24.8	0.40	245.73
Chilipepper	2	543	22.1	0.64	346.00
Rockfish, Yellowtail	3	268	10.9	0.57	152.51
Mackerel, Pacific (Chub)	4	211	8.6	0.56	118.06
Rockfish, Copper	5	100	4.1	1.65	165.16
Rockfish, Widow	6	83	3.4	0.53	43.73
Rockfish, Rosy	7	78	3.2	0.21	16.40
Rockfishes (general)	8	60	2.4	0.60**	36.00
Rockfish, Greenspotted	9	57	2.3	0.71	40.53
Rockfish, Greenstriped	10	51	2.1	0.25	12.80
Tuna, Albacore	11	46	1.9	10.93	502.85
Rockfish, Canary	12	44	1.8	0.60	26.54
Hake, Pacific	13	39	1.6	1.04	40.58
Rockfish, Starry	14	33	1.3	0.59	19.43
Bocaccio	15	32	1.3	1.57	50.16
Sablefish	16	30	1.2	1.48	44.40
Sanddab, Pacific	17	30	1.2	0.17	5.03
Rockfish, Squarespot	18	28	1.1	0.20	5.60
Rockfish, Brown	19	18	0.7	0.71	12.71
Rockfish, Vermilion	20	17	0.7	1.73	29.40
Lingcod	21	16	0.7	3.40	54.40
Rockfish, Speckled	22	13	0.5	0.83	10.80
Rockfish, Olive	23	11	0.4	0.61	6.68
Rockfish, Yelloweye	24	9	0.4	1.93	17.37
Rockfish, Gopher	25	4	0.2	0.41	1.62
Rockfish, Stripetail	26	3	0.1	0.19	0.56
Rockfish, Flag	27	3	0.1	0.67	2.00

(Table 101. - continued)

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Swordspine	28	3	0.1	0.23	0.70
Bonito, Pacific	29	3	0.1	3.50	10.50
Sole, Rock	30	3	0.1	1.10	3.30
Rockfish, Rosethorn	31	2	0.1	0.25	0.50
Jack Mackerel	32	2	0.1	0.33	0.66
Flounders, Lefteye	33	2	0.1	0.17**	0.34
Rockfish, Quillback	34	1	0.0	0.40	0.40
Rockfish, China	35	1	0.0	0.50	0.50
Total		2453	100		2023.96

C. CPUE

Catch per Angler Day = 14.96 Catch per Angler Hour = 3.56
 Kg per Angler Day = 12.34 Kg per Angler Hour = 2.94

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 102. Sampled Effort, Ranked Catch and CPUE for Area 4 in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 164
 Total Hours Effort for Anglers Intercepted = 689.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Chilipepper	1	320.51	503	23.9	328	0.64	371	41
Rockfish, Blue	2	220.31	546	25.9	283	0.40	292	42
Tuna, Albacore	3	207.70	19	0.9	19	10.93	798	83
Rockfish, Copper	4	165.16	100	4.7	91	1.65	442	50
Rockfish, Yellowtail	5	118.94	209	9.9	202	0.57	329	64
Mackerel, Pacific (Chub)	6	78.89	141	6.7	98	0.56	342	28
Lingcod	7	54.40	16	0.8	16	3.40	673	74
Bocaccio	8	47.03	30	1.4	30	1.57	521	69
Sablefish	9	44.40	30	1.4	30	1.48	561	45
Rockfish, Widow	10	43.73	83	3.9	81	0.53	334	58
Rockfish, Greenspotted	11	40.53	57	2.7	54	0.71	349	45
Hake, Pacific	12	33.30	32	1.5	32	1.04	504	66
Rockfish, Vermilion	13	29.40	17	0.8	17	1.73	467	74
Rockfish, Canary	14	24.73	41	1.9	41	0.60	330	72
Rockfish, Starry	15	18.84	32	1.5	32	0.59	326	34
Rockfish, Yelloweye	16	17.37	9	0.4	9	1.93	453	95
Rockfish, Rosy	17	14.08	67	3.2	67	0.21	233	18
Rockfish, Brown	18	12.71	18	0.9	18	0.71	339	34
Rockfish, Greenstriped	19	12.55	50	2.4	48	0.25	279	27
Rockfish, Speckled	20	10.80	13	0.6	13	0.83	379	41
Rockfish, Olive	21	6.68	11	0.5	13	0.61	354	47
Rockfish, Squarespot	22	5.60	28	1.3	24	0.20	247	20
Sanddab, Pacific	23	5.03	30	1.4	30	0.17	245	23
Bonito, Pacific	24	3.50	1	0.0	1	3.50	635	0
Sole, Rock	25	3.30	3	0.1	3	1.10	432	19
Rockfish, Flag	26	2.00	3	0.1	3	0.67	335	46

(Table 102. - continued)

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Gopher	27	1.62	4	0.2	4	0.41	292	23
Rockfish, Swordspine	28	0.70	3	0.1	3	0.23	230	22
Jack Mackerel	29	0.66	2	0.1	2	0.33	301	30
Rockfish, Stripetail	30	0.56	3	0.1	3	0.19	238	19
Rockfish, Rosethorn	31	0.50	2	0.1	2	0.25	251	8
Rockfish, China	32	0.50	1	0.0	1	0.50	300	0
Rockfish, Quillback	33	0.40	1	0.0	1	0.40	275	0
Flounders, Lefteye	34	0.00	2	0.1	2	0.00	320	25
Total		1546.43	2107	100	1601			

C. CPUE***

Catch per Angler Day = 12.85 Catch per Angler Hour = 3.06
 Kg per Angler Day = 9.43 Kg per Angler Hour = 2.24

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Figure 6. Length-Frequency Histogram for Bocaccio
Taken by Pier or Dock Anglers Using Hook-and-Line Gear.
Area 4, Quarter 3, 1984.

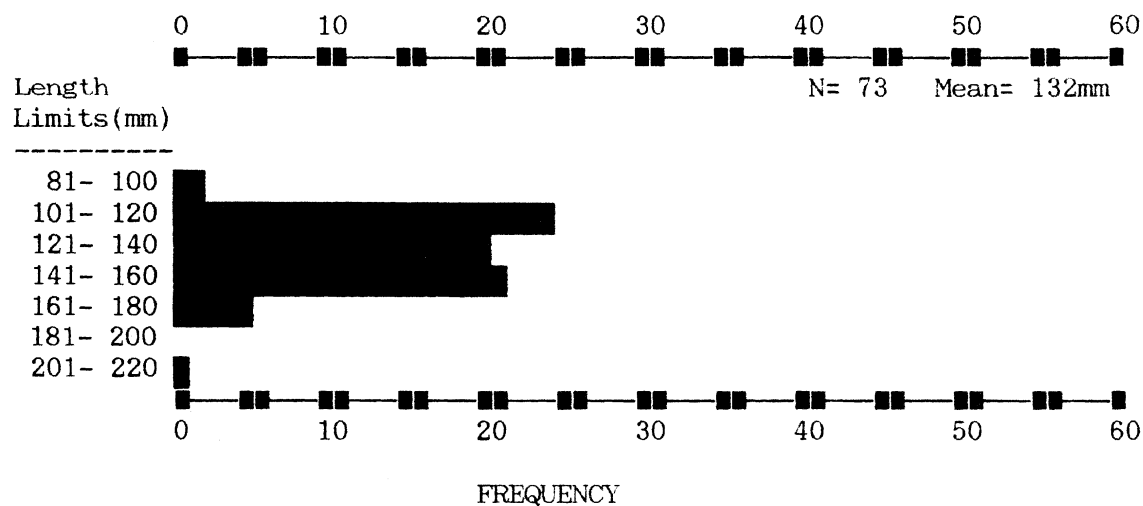


Figure 7. Length-Frequency Histogram for Pacific (Chub) Mackerel
Taken by Pier or Dock Anglers Using Hook-and-Line Gear.
Area 4, Quarter 3, 1984.

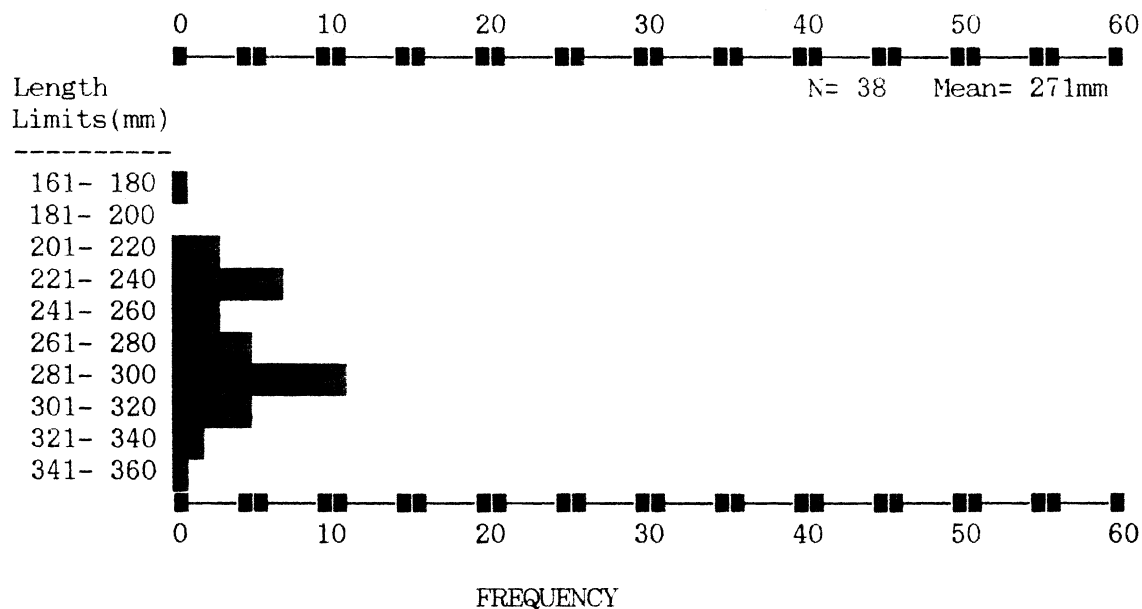


Figure 8. Length-Frequency Histogram for Pacific (Chub) Mackerel
 Taken by Beach and Bank Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

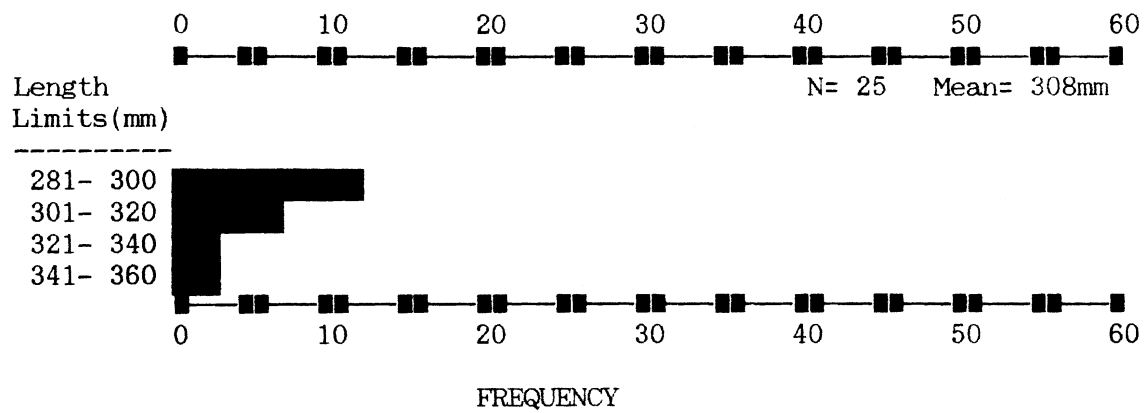


Figure 9. Length-Frequency Histogram for Barred Surfperch
 Taken by Beach and Bank Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

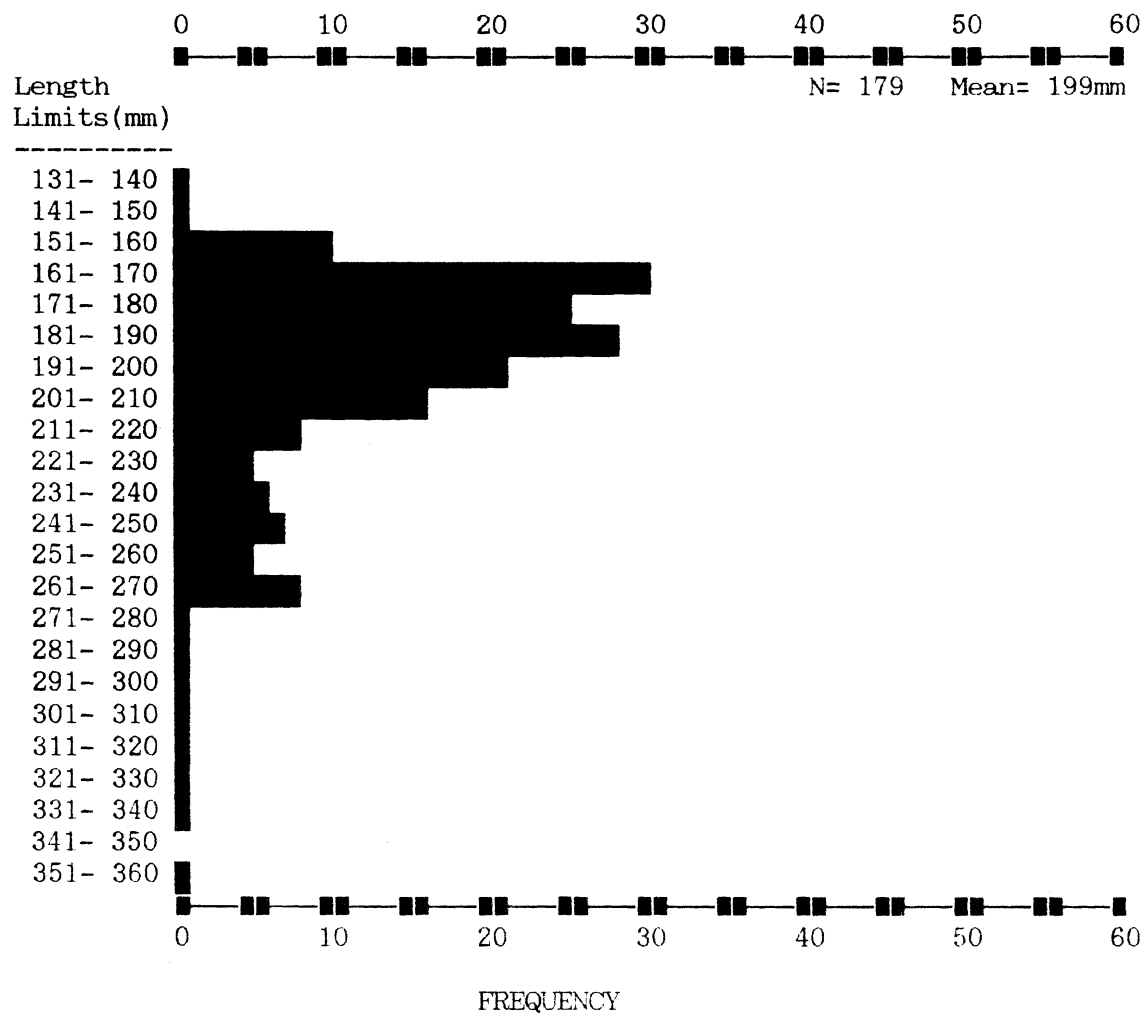


Figure 10. Length-Frequency Histogram for White Croaker
Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
Area 4, Quarter 3, 1984.

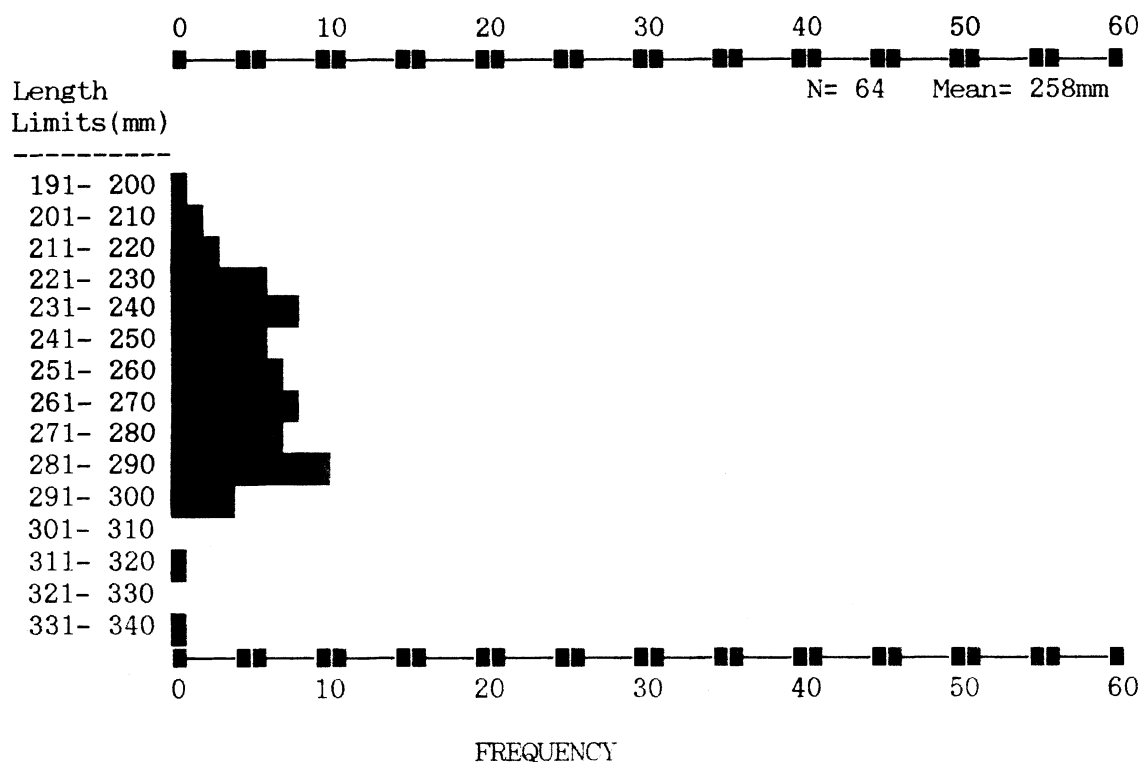


Figure 11. Length-Frequency Histogram for Pacific (Chub) Mackerel
Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
Area 4, Quarter 3, 1984.

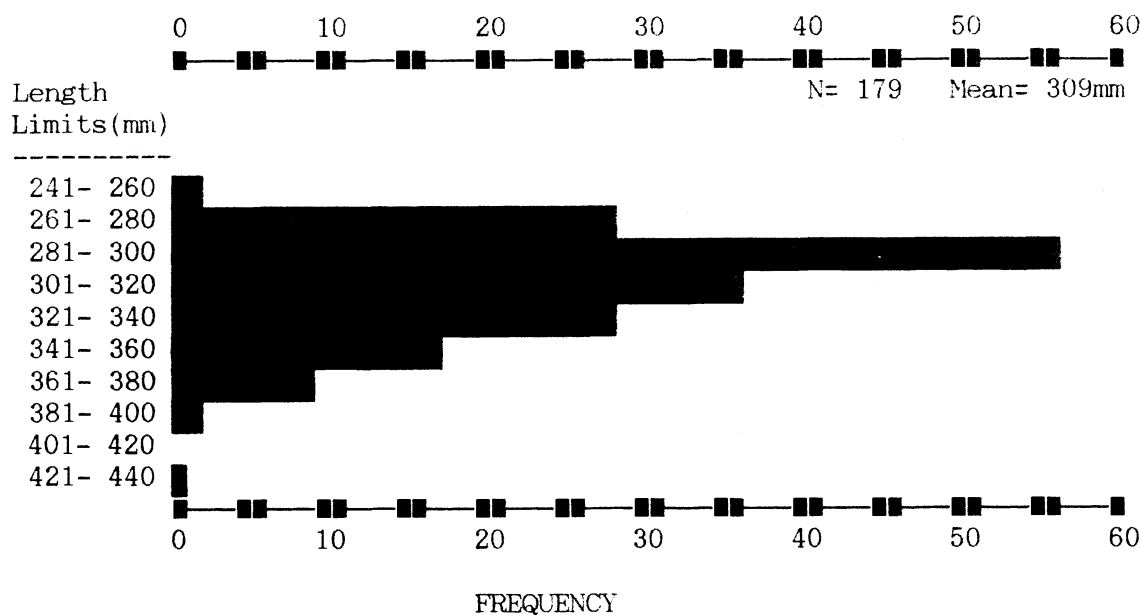


Figure 12. Length-Frequency Histogram for Blue Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

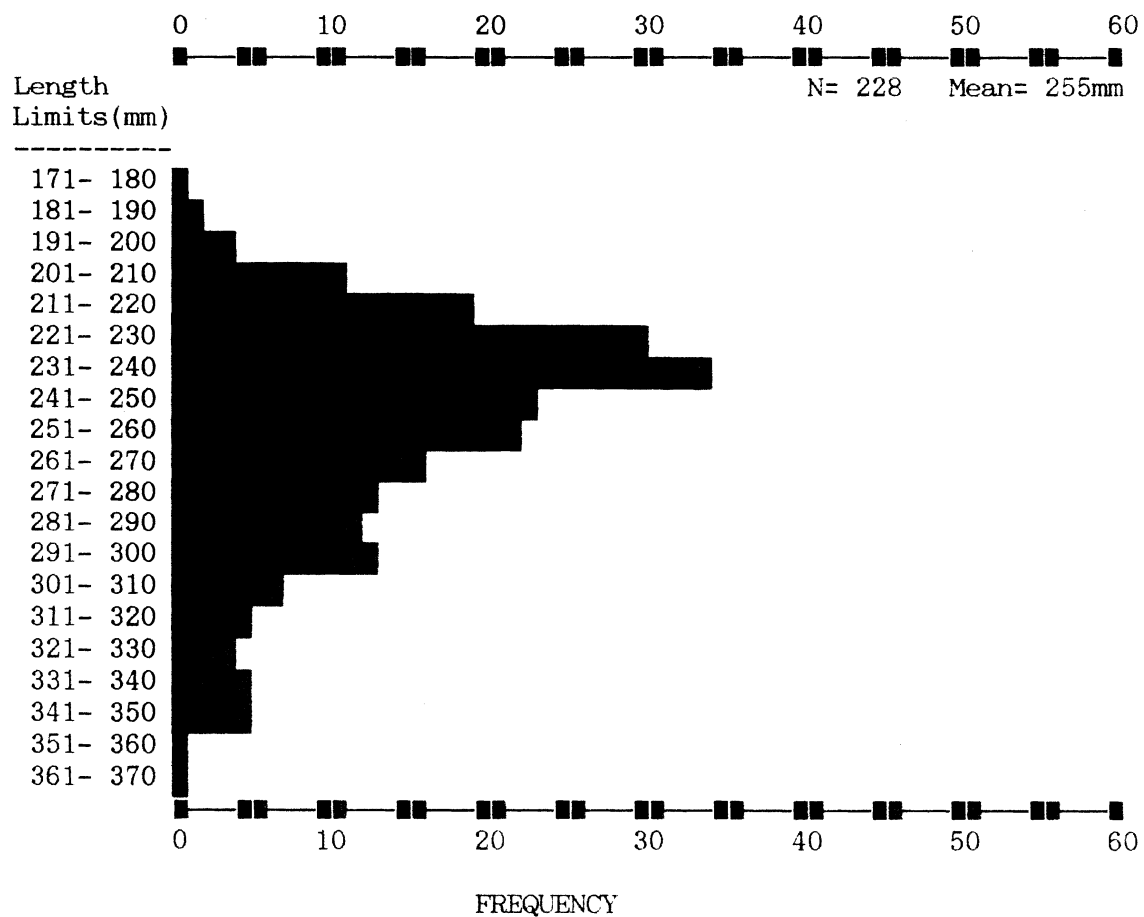


Figure 13. Length-Frequency Histogram for Brown Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

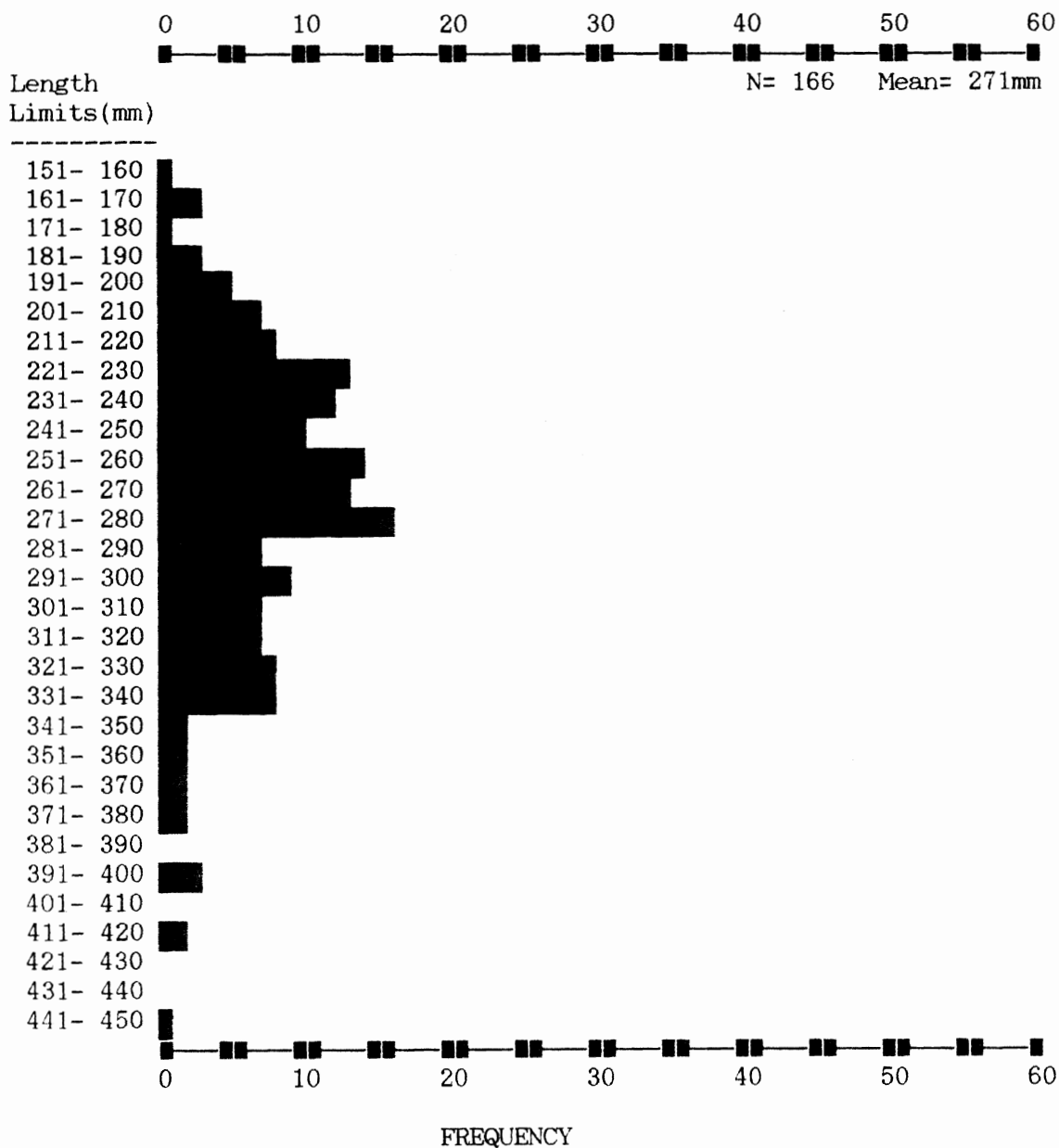


Figure 14. Length-Frequency Histogram for Gopher Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

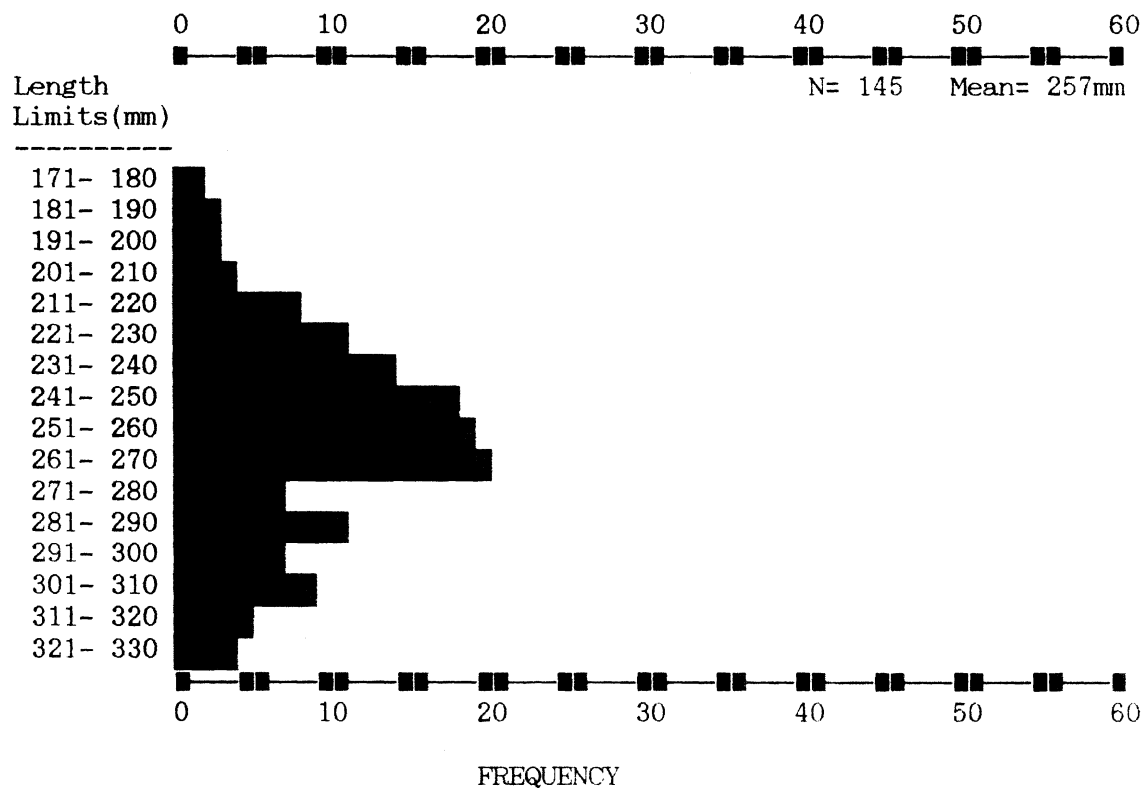


Figure 15. Length-Frequency Histogram for Yellowtail Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

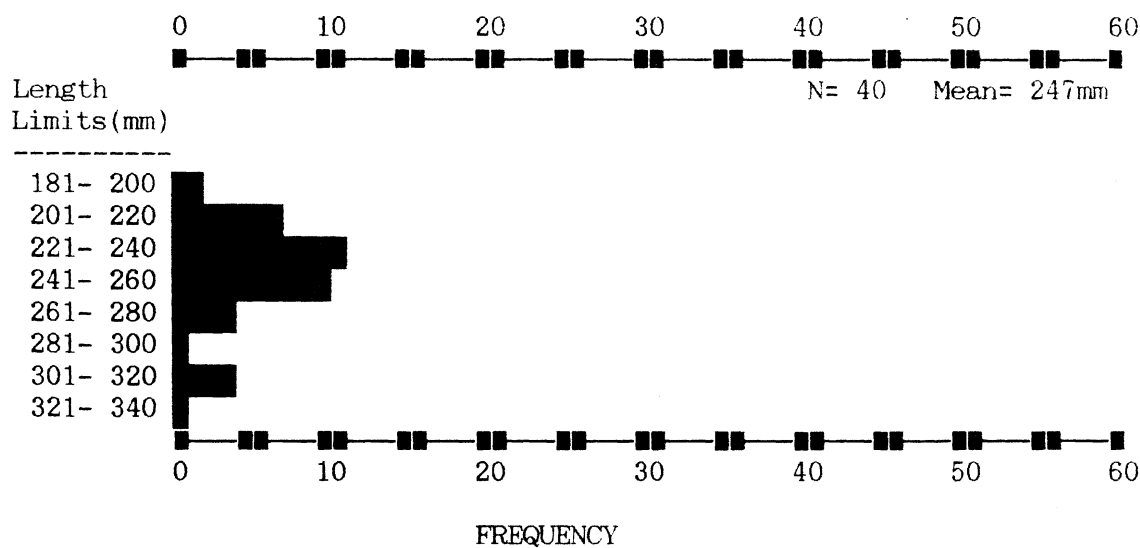


Figure 16. Length-Frequency Histogram for Pacific Sanddab
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

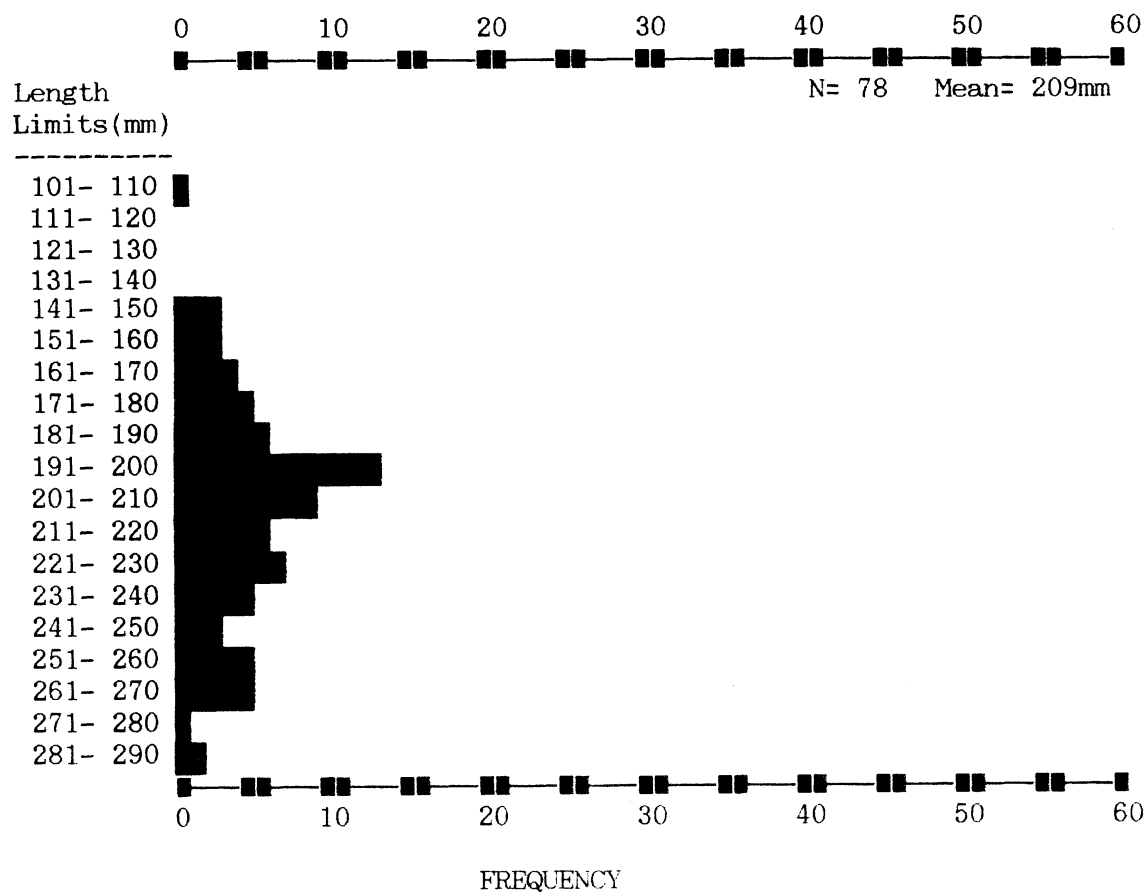


Figure 17. Length-Frequency Histogram for Chilipepper
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

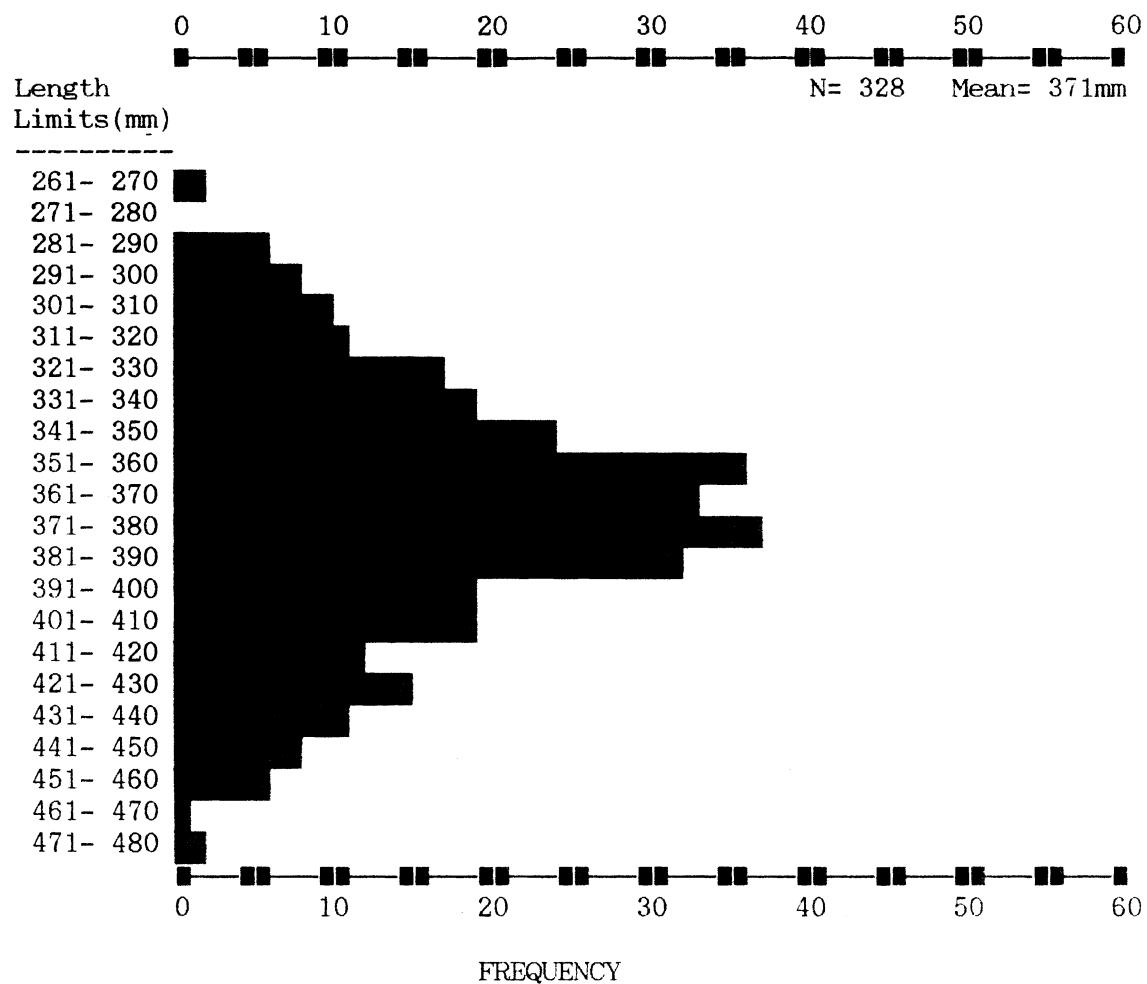


Figure 18. Length-Frequency Histogram for Pacific Hake
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

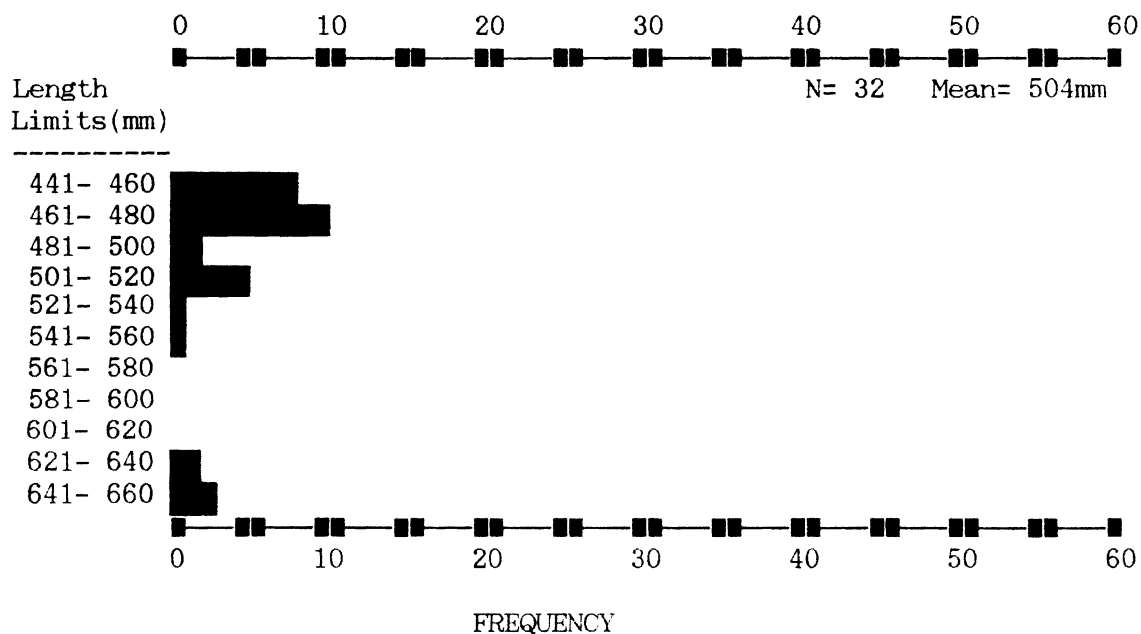


Figure 19. Length-Frequency Histogram for Pacific (Chub) Mackerel
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

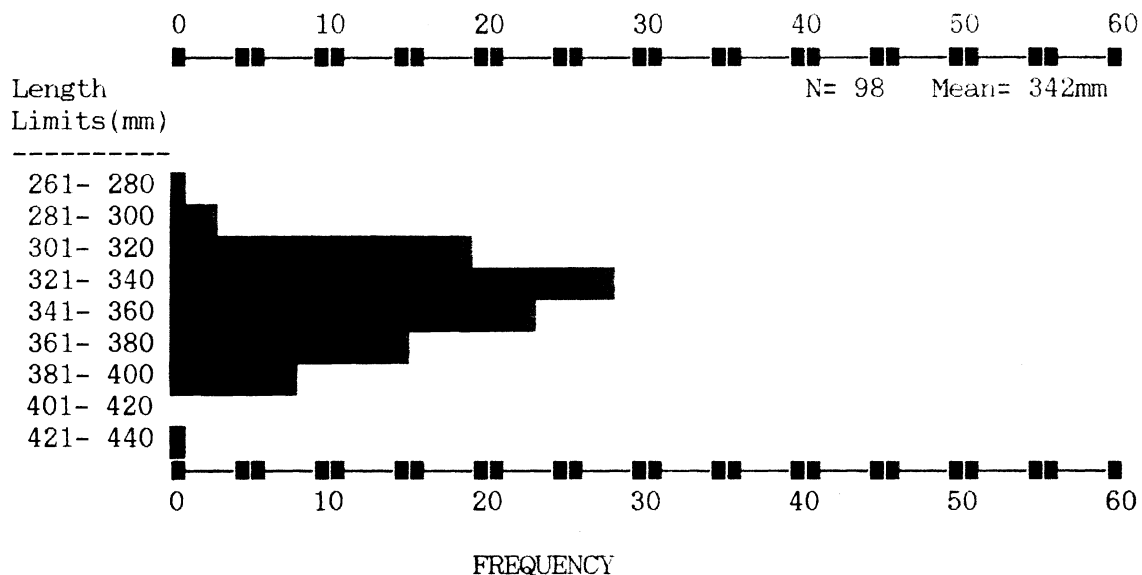


Figure 20. Length-Frequency Histogram for Blue Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

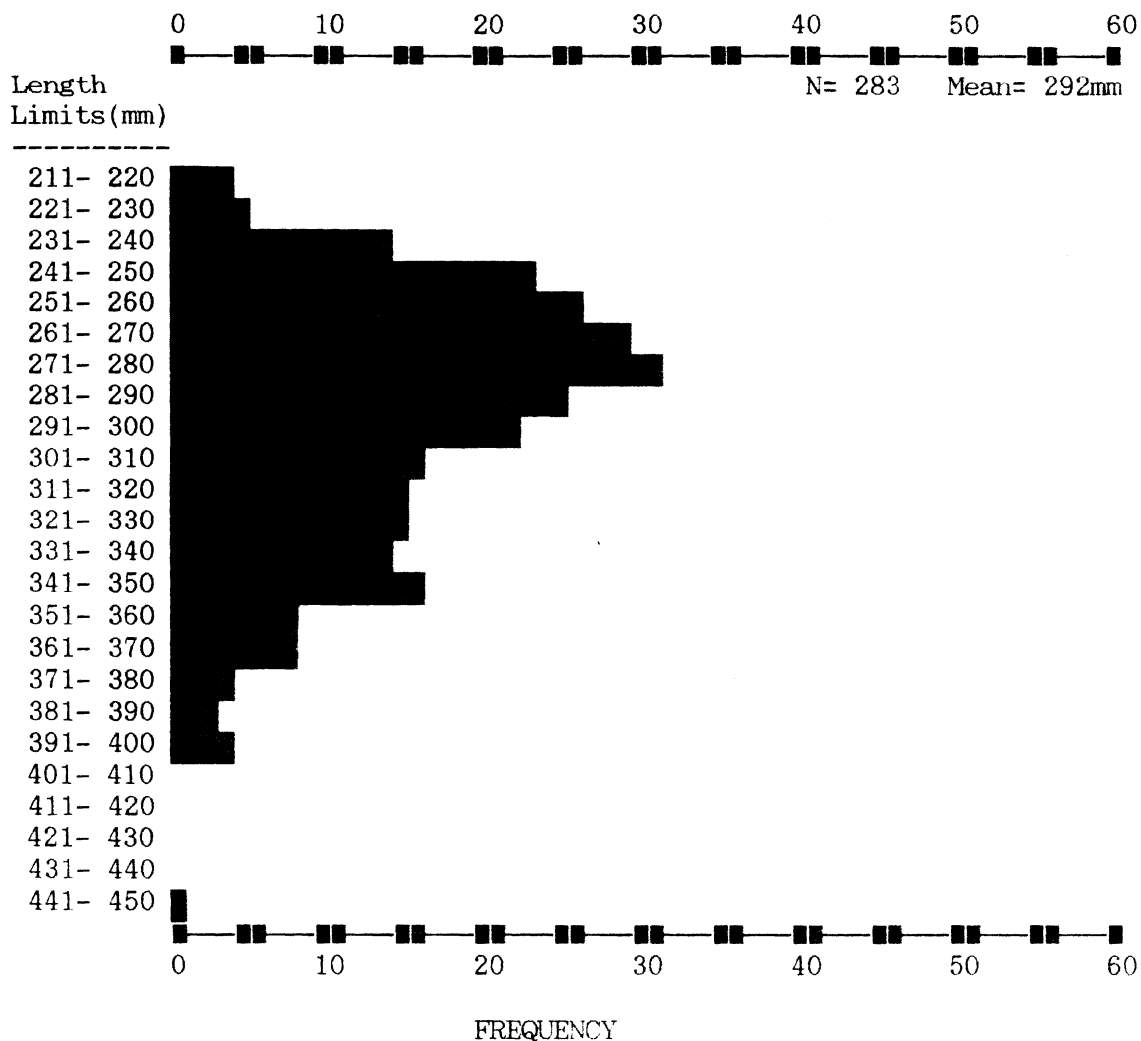


Figure 21. Length-Frequency Histogram for Copper Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

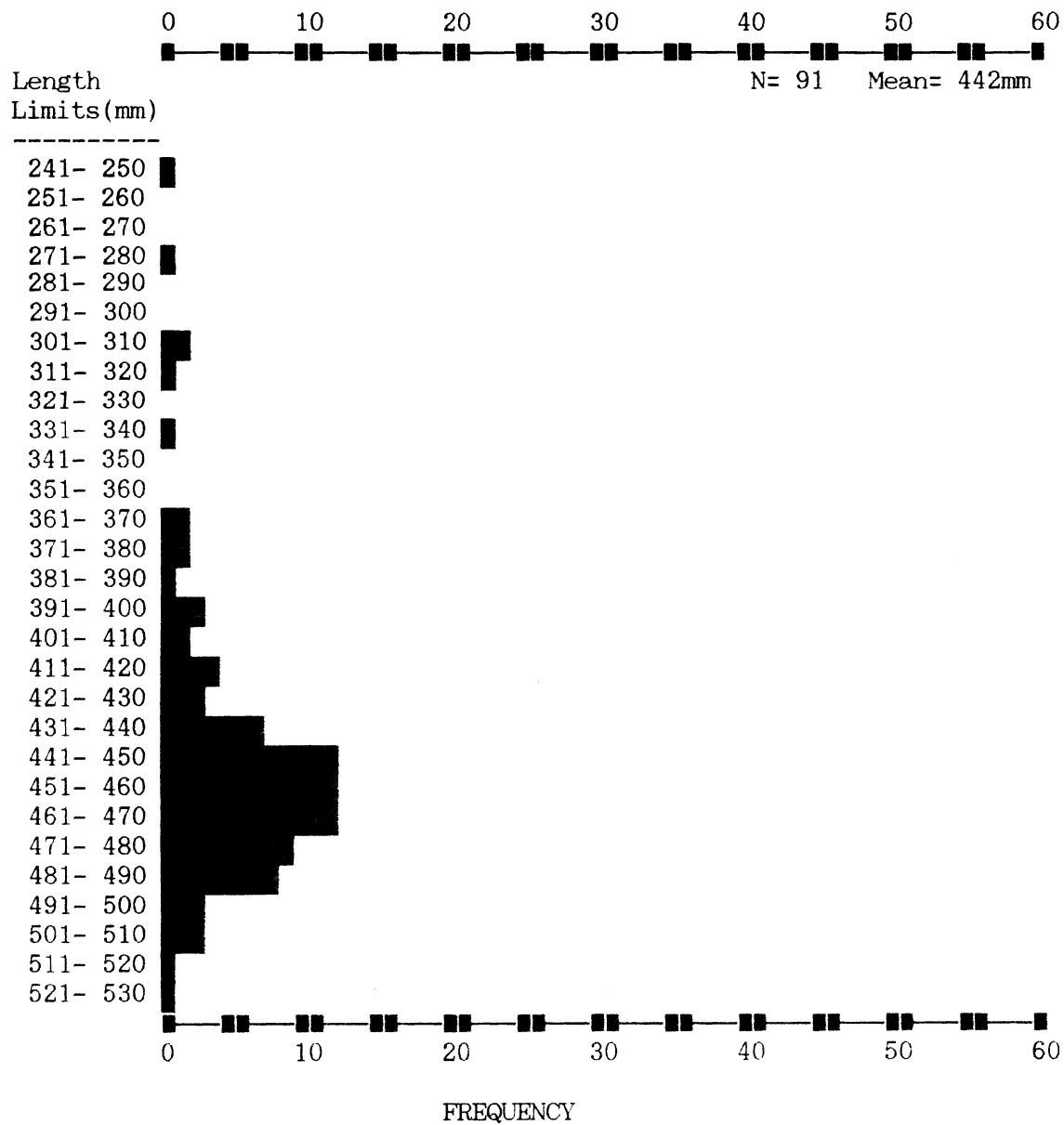


Figure 22. Length-Frequency Histogram for Rosy Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

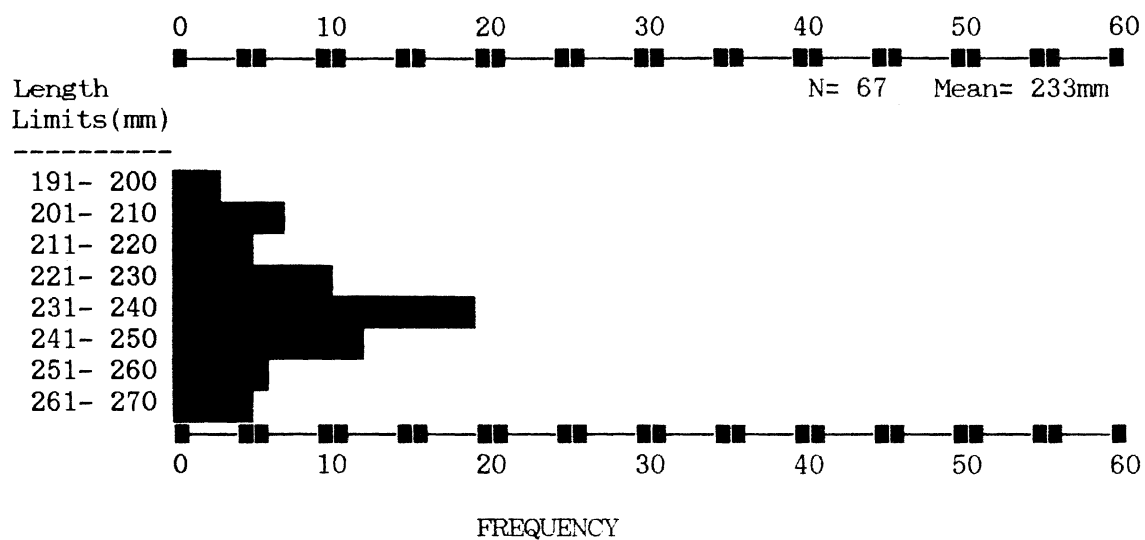


Figure 23. Length-Frequency Histogram for Widow Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 4, Quarter 3, 1984.

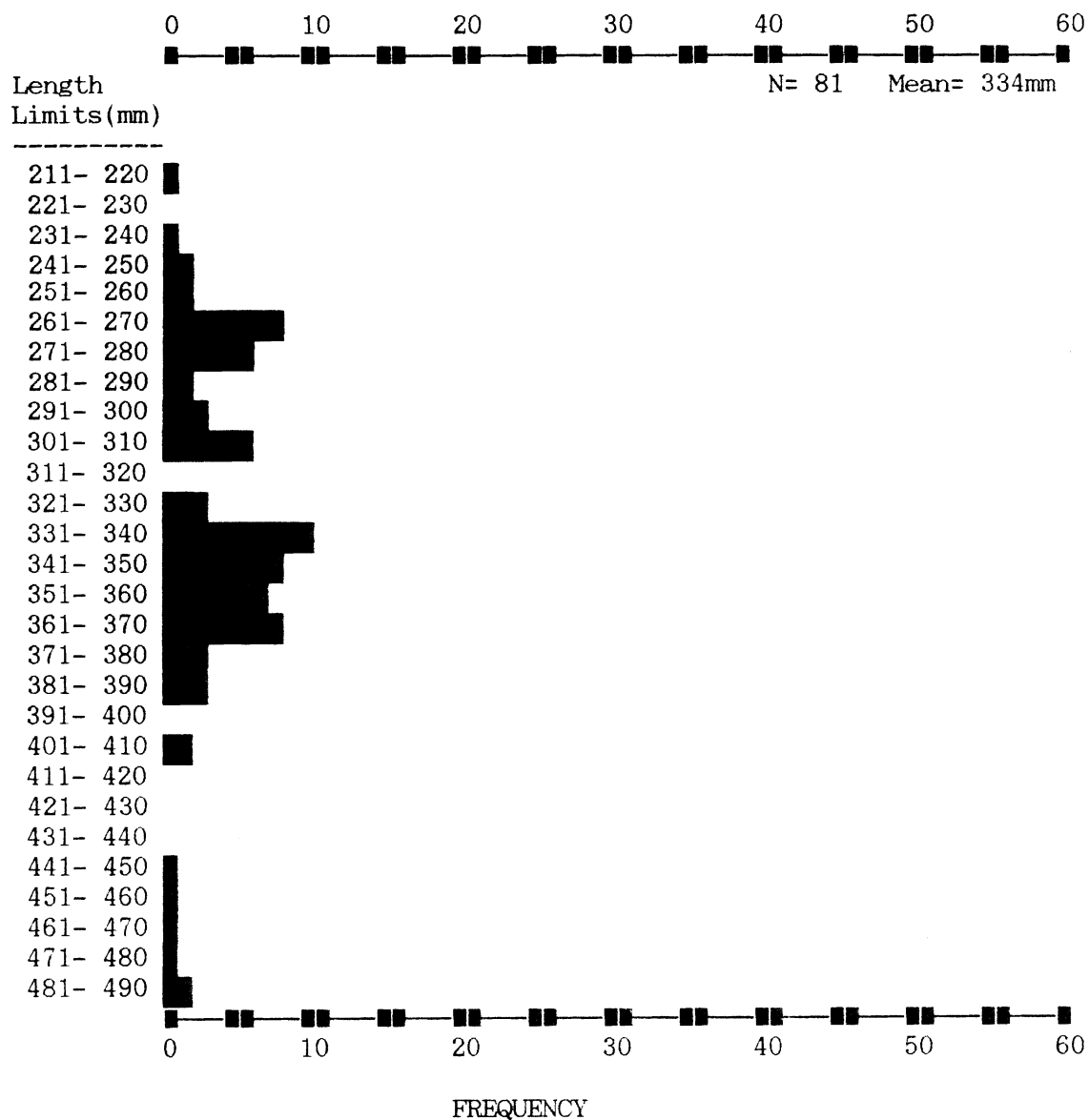


Figure 24. Length-Frequency Histogram for Yellowtail Rockfish
Taken by All CPFV Anglers Using Hook-and-Line Gear.
Area 4, Quarter 3, 1984.

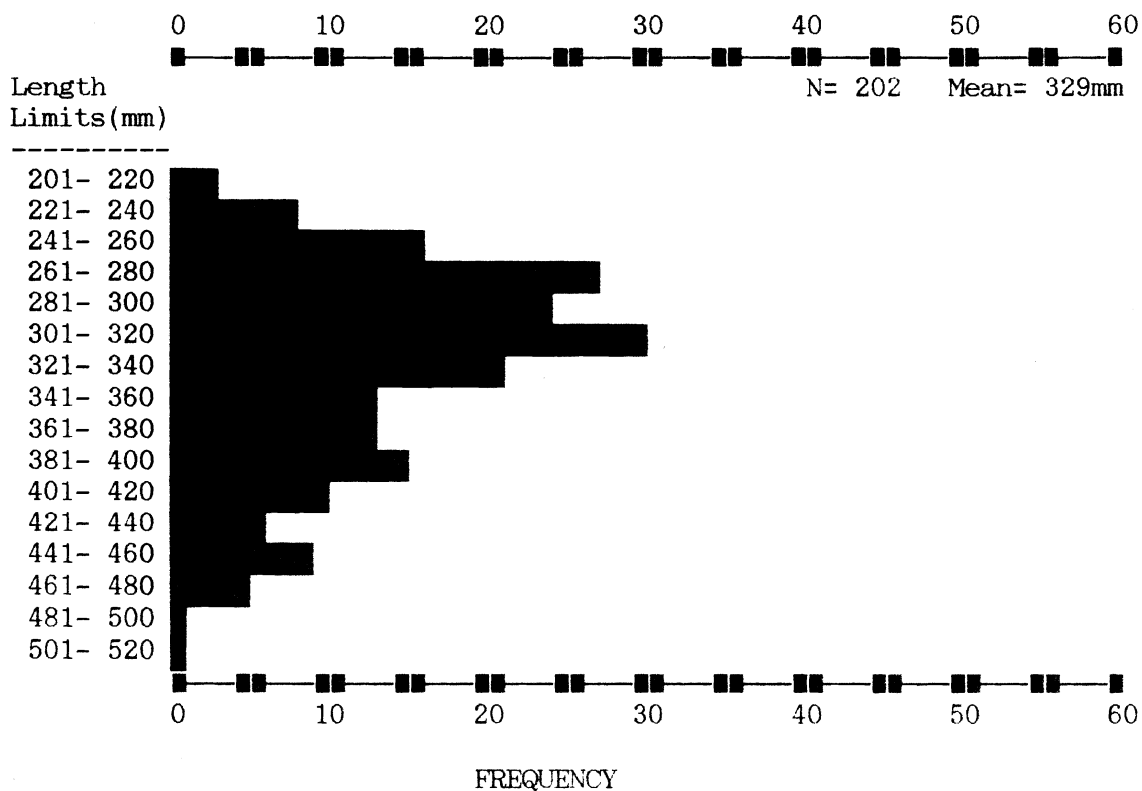


Figure 25. Length-Frequency Histogram for Sablefish
Taken by All CPFV Anglers Using Hook-and-Line Gear.
Area 4, Quarter 3, 1984.

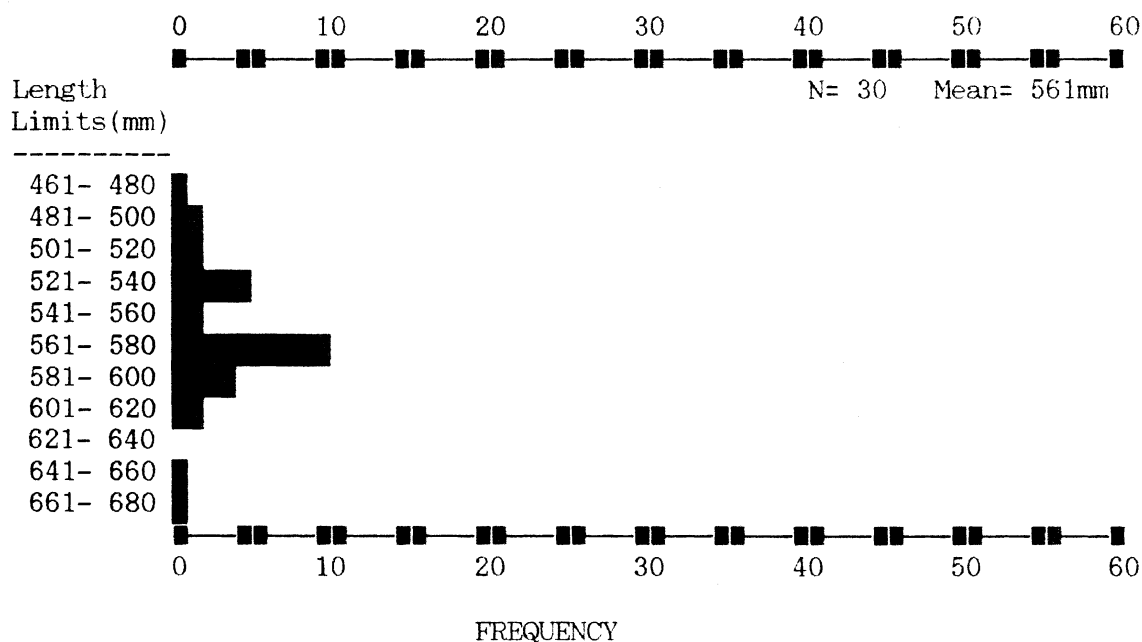


Table 103. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 229
 Total Hours Effort for Anglers Intercepted = 569.9

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Bocaccio	1	396	46.8
Mackerel, Pacific (Chub)	2	130	15.3
Sculpin, Pacific Staghorn	3	78	9.2
Lingcod	4	51	6.0
Perch, Shiner	5	47	5.5
Surfperches	6	37	4.4
Jacksmelt	7	36	4.3
Croaker, White	8	35	4.1
Surfperch, Walleye	9	6	0.7
Unidentified Fishes	10	5	0.6
Surfperch, Barred	11	5	0.6
Bonito, Pacific	12	5	0.6
Bass, Kelp	13	4	0.5
Guitarfish, Shovelnose	14	2	0.2
Fringehead, Onespot	15	2	0.2
Rockfishes (general)	16	1	0.1
Rockfish, Olive	17	1	0.1
Jack Mackerel	18	1	0.1
Queenfish	19	1	0.1
Surfperch, Silver	20	1	0.1
Surfperch, Calico	21	1	0.1
Sanddab, Speckled	22	1	0.1
Flounder, Starry	23	1	0.1
Total		847	100

C. CPUE

Catch per Angler Day = 3.70 Catch per Angler Hour = 1.49

Table 104. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 229
 Total Hours Effort for Anglers Intercepted = 569.9

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Bocaccio	1	311	54.3	0.03	7.96
Mackerel, Pacific (Chub)	2	123	21.5	0.31	37.68
Perch, Shiner	3	41	7.2	0.03	1.22
Jacksmelt	4	34	5.9	0.22	7.60
Surfperches	5	21	3.7	0.06**	1.26
Croaker, White	6	17	3.0	0.17	2.92
Surfperch, Walleye	7	6	1.0	0.13	0.78
Bonito, Pacific	8	5	0.9	1.40	7.00
Surfperch, Barred	9	4	0.7	0.28	1.14
Sculpin, Pacific Staghorn	10	3	0.5	0.00**	0.00
Guitarfish, Shovelnose	11	1	0.2	0.00**	0.00
Rockfish, Olive	12	1	0.2	0.01	0.01
Lingcod	13	1	0.2	0.00**	0.00
Jack Mackerel	14	1	0.2	0.20	0.20
Queenfish	15	1	0.2	0.00**	0.00
Surfperch, Silver	16	1	0.2	0.10	0.10
Surfperch, Calico	17	1	0.2	0.13	0.13
Sanddab, Speckled	18	1	0.2	0.02	0.02
Total		573	100		68.01

C. CPUE

Catch per Angler Day = 2.50 Catch per Angler Hour = 1.01
 Kg per Angler Day = 0.30 Kg per Angler Hour = 0.12

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 105. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1984 for Quarter 3, by Pier or Dock Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 229
 Total Hours Effort for Anglers Intercepted = 569.9

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Mackerel, Pacific (Chub)	1	17.46	57	18.7	44	0.31	288	18
Bonito, Pacific	2	5.60	4	1.3	4	1.40	448	109
Bocaccio	3	4.66	182	59.7	90	0.03	139	14
Jacksmelt	4	4.47	20	6.6	20	0.22	294	73
Croaker, White	5	1.37	8	2.6	8	0.17	243	37
Surfperch, Walleye	6	0.79	6	2.0	6	0.13	201	14
Perch, Shiner	7	0.62	21	6.9	20	0.03	130	13
Surfperch, Barred	8	0.57	2	0.7	2	0.28	247	7
Jack Mackerel	9	0.20	1	0.3	1	0.20	274	0
Surfperch, Calico	10	0.13	1	0.3	1	0.13	202	0
Surfperch, Silver	11	0.10	1	0.3	1	0.10	187	0
Sanddab, Speckled	12	0.02	1	0.3	1	0.02	123	0
Rockfish, Olive	13	0.01	1	0.3	1	0.01	104	0
Total		36.00	305	100	199			

C. CPUE***

Catch per Angler Day = 1.33 Catch per Angler Hour = 0.54
 Kg per Angler Day = 0.16 Kg per Angler Hour = 0.06

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 106. Sampled Effort, Ranked Catch and CPUE for Area 5
in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using
Hook-and-Line Gear. Catch Represents All Fish Captured,
Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 4
Total Hours Effort for Anglers Intercepted = 11.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Bass, Kelp	1	15	40.5
Cabazon	2	12	32.4
Sculpin, Pacific Staghorn	3	7	18.9
Jacksmelt	4	1	2.7
Bocaccio	5	1	2.7
Sculpins	6	1	2.7
Total		37	100

C. CPUE

Catch per Angler Day = 9.25 Catch per Angler Hour = 3.22

Table 107. Sampled Effort, Ranked Catch and CPUE for Area 5
in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using
Hook-and-Line Gear. Catch Represents Number Landed
and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 4
Total Hours Effort for Anglers Intercepted = 11.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Bass, Kelp	1	3	60.0	0.03	0.10
Jacksmelt	2	1	20.0	0.17	0.17
Bocaccio	3	1	20.0	0.03	0.03
Total		5	100		0.29

C. CPUE

Catch per Angler Day = 1.25 Catch per Angler Hour = 0.43
Kg per Angler Day = 0.07 Kg per Angler Hour = 0.03

* Weight estimated from length-to-weight regression if available.

Table 108. Sampled Effort, Ranked Catch and CPUE for Area 5
in 1984 for Quarter 3, by Jetty or Breakwater Anglers Using
Hook-and-Line Gear. Catch Represents Only the Fish
Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 4
Total Hours Effort for Anglers Intercepted = 11.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Jacksmelt	1	0.17	1	20.0	1	0.17	285	0
Bass, Kelp	2	0.10	3	60.0	2	0.03	146	8
Bocaccio	3	0.03	1	20.0	1	0.03	140	0
Total		0.29	5	100	4			

C. CPUE***

Catch per Angler Day = 1.25 Catch per Angler Hour = 0.43
Kg per Angler Day = 0.07 Kg per Angler Hour = 0.03

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 109. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents All Fish Captured, Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted = 111
 Total Hours Effort for Anglers Intercepted = 223.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Surfperch, Barred	1	48	31.8
Surfperch, Silver	2	39	25.8
Surfperch, Redtail	3	20	13.2
Surfperch, Calico	4	9	6.0
Jacksmelt	5	6	4.0
Bass, Kelp	6	6	4.0
Surfperch, Walleye	7	5	3.3
Unidentified Fishes	8	4	2.6
Bonito, Pacific	9	3	2.0
Rockfish, Grass	10	2	1.3
Surfperches	11	2	1.3
Lingcod	12	1	0.7
Sculpins	13	1	0.7
Sculpin, Pacific Staghorn	14	1	0.7
Sand bass, Barred	15	1	0.7
Seaperch, Striped	16	1	0.7
Perch, Black	17	1	0.7
Seaperch, Rubberlip	18	1	0.7
Total		151	100

C. CPUE

Catch per Angler Day = 1.36 Catch per Angler Hour = 0.68

Table 110. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 111
 Total Hours Effort for Anglers Intercepted = 223.0

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Surfperch, Silver	1	37	32.5	0.09	3.17
Surfperch, Barred	2	31	27.2	0.19	5.78
Surfperch, Redtail	3	20	17.5	0.18	3.54
Surfperch, Calico	4	9	7.9	0.16	1.42
Surfperch, Walleye	5	5	4.4	0.14	0.68
Bonito, Pacific	6	3	2.6	1.47	4.40
Rockfish, Grass	7	2	1.8	1.15	2.30
Bass, Kelp	8	2	1.8	0.09	0.18
Jacksmelt	9	1	0.9	0.32	0.32
Sand bass, Barred	10	1	0.9	0.20	0.20
Seaperch, Striped	11	1	0.9	0.20	0.20
Perch, Black	12	1	0.9	0.13	0.13
Seaperch, Rubberlip	13	1	0.9	0.60	0.60
Total		114	100		22.91

C. CPUE

Catch per Angler Day = 1.03 Catch per Angler Hour = 0.51
 Kg per Angler Day = 0.21 Kg per Angler Hour = 0.10

* Weight estimated from length-to-weight regression if available.

Table 111. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1984 for Quarter 3, by Beach or Bank Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 111
 Total Hours Effort for Anglers Intercepted = 223.0

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Surfperch, Barred	1	5.40	29	27.4	26	0.19	210	34
Bonito, Pacific	2	4.40	3	2.8	3	1.47	478	40
Surfperch, Redtail	3	3.54	20	18.9	10	0.18	222	15
Surfperch, Silver	4	2.74	32	30.2	21	0.09	176	19
Rockfish, Grass	5	2.30	2	1.9	2	1.15	367	4
Surfperch, Calico	6	1.42	9	8.5	9	0.16	212	25
Surfperch, Walleye	7	0.68	5	4.7	5	0.14	202	19
Seaperch, Rubberlip	8	0.60	1	0.9	1	0.60	321	0
Jacksmelt	9	0.32	1	0.9	1	0.32	345	0
Sand bass, Barred	10	0.20	1	0.9	1	0.20	237	0
Seaperch, Striped	11	0.20	1	0.9	1	0.20	222	0
Perch, Black	12	0.13	1	0.9	1	0.13	184	0
Bass, Kelp	13	0.09	1	0.9	1	0.09	198	0
Total		22.02	106	100	82			

C. CPUE***

Catch per Angler Day = 0.95 Catch per Angler Hour = 0.48
 Kg per Angler Day = 0.20 Kg per Angler Hour = 0.10

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 112. Sampled Effort, Ranked Catch and CPUE for Area 5
in 1984 for Quarter 3, by Private or Rental Boat Anglers Using
Hook-and-Line Gear. Catch Represents All Fish Captured,
Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	227
Total Hours Effort for Anglers Intercepted	=	969.3

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Mackerel, Pacific (Chub)	1	528	21.4
Rockfish, Blue	2	372	15.1
Rockfishes (general)	3	283	11.5
Rockfish, Black	4	158	6.4
Rockfish, Gopher	5	158	6.4
Rockfish, Swordspine	6	131	5.3
Rockfish, Olive	7	106	4.3
Croaker, White	8	81	3.3
Rockfish, Brown	9	76	3.1
Rockfish, Yellowtail	10	66	2.7
Bonito, Pacific	11	58	2.4
Rockfish, Copper	12	51	2.1
Rockfish, Vermilion	13	44	1.8
Rockfish, Rosy	14	37	1.5
Sculpin, Pacific Staghorn	15	36	1.5
Bocaccio	16	34	1.4
Rockfish, Canary	17	32	1.3
Skates	18	31	1.3
Rockfish, Black-and-yellow	19	28	1.1
Halibut, California	20	25	1.0
Spiny Dogfish	21	18	0.7
Jacksmelt	22	17	0.7
Lingcod	23	12	0.5
Jack Mackerel	24	11	0.4
Sanddab, Speckled	25	11	0.4
Unidentified Fishes	26	10	0.4

(Table 112. - continued)

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Kelp	27	9	0.4
Ray, Bat	28	8	0.3
Rockfish, Starry	29	8	0.3
Rockfish, Flag	30	5	0.2
Rockfish, China	31	3	0.1
Rockfish, Yelloweye	32	3	0.1
Greenling, Kelp	33	3	0.1
Cabazon	34	3	0.1
Rockfish, Widow	35	2	0.1
Sole, Rock	36	2	0.1
Flounder, Starry	37	2	0.1
Lizardfish, California	38	1	0.0
Chilipepper	39	1	0.0
Rockfish, Greenspotted	40	1	0.0
Bass, Kelp	41	1	0.0
Seabass, White	42	1	0.0
Flounders, Lefteye	43	1	0.0
Total		2468	100

C. CPUE

Catch per Angler Day = 10.87 Catch per Angler Hour = 2.55

Table 113. Sampled Effort, Ranked Catch and CPUE for Area 5
in 1984 for Quarter 3, by Private or Rental Boat Anglers Using
Hook-and-Line Gear. Catch Represents Number Landed
and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 227
Total Hours Effort for Anglers Intercepted = 969.3

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	330	17.8	0.26	85.75
Mackerel, Pacific (Chub)	2	329	17.7	0.42	137.08
Rockfish, Black	3	158	8.5	0.29	46.21
Rockfish, Gopher	4	158	8.5	0.31	49.13
Rockfish, Swordspine	5	121	6.5	0.46	55.91
Rockfish, Olive	6	106	5.7	0.42	44.17
Rockfishes (general)	7	88	4.7	0.41**	36.08
Rockfish, Brown	8	76	4.1	0.70	52.85
Rockfish, Yellowtail	9	66	3.6	0.30	19.65
Bonito, Pacific	10	58	3.1	2.07	120.09
Croaker, White	11	53	2.9	0.24	12.58
Rockfish, Copper	12	51	2.7	0.88	44.97
Rockfish, Vermilion	13	44	2.4	1.24	54.46
Rockfish, Rosy	14	37	2.0	0.24	8.81
Bocaccio	15	32	1.7	0.77	24.70
Rockfish, Canary	16	32	1.7	0.32	10.16
Rockfish, Black-and-yellow	17	28	1.5	0.43	11.90
Lingcod	18	12	0.6	2.65	31.80
Jack Mackerel	19	11	0.6	0.37	4.10
Sanddab, Speckled	20	11	0.6	0.12	1.27
Rockfish, Kelp	21	9	0.5	0.46	4.10
Rockfish, Starry	22	8	0.4	0.50	4.00
Halibut, California	23	7	0.4	2.23	15.60
Jacksmelt	24	6	0.3	0.17	1.04
Rockfish, Flag	25	5	0.3	0.36	1.80
Rockfish, Yelloweye	26	3	0.2	1.43	4.30
Greenling, Kelp	27	3	0.2	0.33	0.99

(Table 113. - continued)

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Widow	28	2	0.1	0.10	0.20
Cabazon	29	2	0.1	0.80	1.60
Sole, Rock	30	2	0.1	0.55	1.10
Flounder, Starry	31	2	0.1	1.05	2.10
Ray, Bat	32	1	0.1	34.30	34.30
Lizardfish, California	33	1	0.1	0.20	0.20
Chilipepper	34	1	0.1	0.20	0.20
Rockfish, China	35	1	0.1	0.50	0.50
Rockfish, Greenspotted	36	1	0.1	0.12	0.12
Bass, Kelp	37	1	0.1	0.66	0.66
Seabass, White	38	1	0.1	7.50	7.50
Flounders, Lefteye	39	1	0.1	0.12**	0.12
Total		1858	100		932.10

C. CPUE

Catch per Angler Day = 8.19 Catch per Angler Hour = 1.92
 Kg per Angler Day = 4.11 Kg per Angler Hour = 0.96

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 114. Sampled Effort, Ranked Catch and CPUE for Area 5
in 1984 for Quarter 3, by Private or Rental Boat Anglers Using
Hook-and-Line Gear. Catch Represents Only the Fish
Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 227
Total Hours Effort for Anglers Intercepted = 969.3

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Mackerel, Pacific (Chub)	1	123.33	296	17.4	155	0.42	313	30
Bonito, Pacific	2	120.09	58	3.4	34	2.07	530	68
Rockfish, Blue	3	84.19	324	19.1	220	0.26	254	30
Rockfish, Swordspine	4	55.91	121	7.1	111	0.46	286	28
Rockfish, Vermilion	5	54.46	44	2.6	45	1.24	404	97
Rockfish, Brown	6	51.46	74	4.4	65	0.70	331	56
Rockfish, Gopher	7	47.88	154	9.1	134	0.31	263	36
Rockfish, Black	8	46.21	158	9.3	144	0.29	265	27
Rockfish, Copper	9	44.97	51	3.0	44	0.88	344	83
Rockfish, Olive	10	44.17	106	6.2	93	0.42	307	60
Ray, Bat	11	34.30	1	0.1	1	34.30	1190	0
Lingcod	12	31.80	12	0.7	12	2.65	609	97
Bocaccio	13	24.70	32	1.9	15	0.77	378	133
Rockfish, Yellowtail	14	19.65	66	3.9	66	0.30	271	36
Halibut, California	15	15.60	7	0.4	7	2.23	590	61
Rockfish, Black-and-yellow	16	11.90	28	1.6	28	0.43	280	24
Rockfish, Canary	17	10.16	32	1.9	32	0.32	272	48
Croaker, White	18	8.07	34	2.0	21	0.24	273	28
Rockfish, Rosy	19	7.86	33	1.9	29	0.24	241	29
Seabass, White	20	7.50	1	0.1	1	7.50	940	0
Rockfish, Yelloweye	21	4.30	3	0.2	3	1.43	415	94
Rockfish, Kelp	22	4.10	9	0.5	9	0.46	310	41
Jack Mackerel	23	4.10	11	0.6	11	0.37	312	17
Rockfish, Starry	24	4.00	8	0.5	8	0.50	307	48
Flounder, Starry	25	2.10	2	0.1	2	1.05	420	107
Rockfish, Flag	26	1.80	5	0.3	5	0.36	274	23

(Table 114. - continued)

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Sanddab, Speckled	27	1.27	11	0.6	10	0.12	204	27
Sole, Rock	28	1.10	2	0.1	2	0.55	343	12
Greenling, Kelp	29	0.99	3	0.2	3	0.33	271	82
Cabazon	30	0.80	1	0.1	1	0.80	353	0
Jacksmelt	31	0.70	4	0.2	4	0.17	282	42
Bass, Kelp	32	0.66	1	0.1	1	0.66	366	0
Rockfish, China	33	0.50	1	0.1	1	0.50	307	0
Rockfish, Widow	34	0.20	2	0.1	2	0.10	208	4
Lizardfish, California	35	0.20	1	0.1	1	0.20	298	0
Chilipepper	36	0.20	1	0.1	1	0.20	262	0
Rockfish, Greenspotted	37	0.12	1	0.1	1	0.12	195	0
Total		871.35	1698	100	1322			

C. CPUE***

Catch per Angler Day = 7.48 Catch per Angler Hour = 1.75
 Kg per Angler Day = 3.84 Kg per Angler Hour = 0.90

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Table 115. Sampled Effort, Ranked Catch and CPUE for Area 5
in 1984 for Quarter 3, by All CPFV Anglers Using
Hook-and-Line Gear. Catch Represents All Fish Captured,
Both Kept and Returned.

A. Sampled Effort

Number Anglers Intercepted	=	123
Total Hours Effort for Anglers Intercepted	=	254.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Blue	1	277	20.2
Mackerel, Pacific (Chub)	2	225	16.4
Rockfish, Yellowtail	3	203	14.8
Rockfish, Widow	4	166	12.1
Rockfish, Swordspine	5	123	9.0
Rockfish, Rosy	6	68	5.0
Rockfish, Canary	7	39	2.8
Rockfish, Gopher	8	36	2.6
Rockfishes (general)	9	33	2.4
Rockfish, Starry	10	28	2.0
Rockfish, Olive	11	25	1.8
Rockfish, Brown	12	24	1.8
Rockfish, Copper	13	24	1.8
Rockfish, Black	14	17	1.2
Rockfish, Vermilion	15	15	1.1
Rockfish, Yelloweye	16	14	1.0
Rockfish, Greenspotted	17	6	0.4
Rockfish, Flag	18	6	0.4
Lingcod	19	6	0.4
Rockfish, Greenstriped	20	5	0.4
Rockfish, Grass	21	5	0.4
Bocaccio	22	4	0.3
Rockfish, Black-and-yellow	23	4	0.3
Rockfish, Speckled	24	4	0.3
Rockfish, China	25	3	0.2
Rockfish, Kelp	26	3	0.2

(Table 115. - continued)

Common name	Rank by Number	Number Caught	% by Number
Rockfish, Squarespot	27	2	0.1
Unidentified Fishes	28	1	0.1
Spiny Dogfish	29	1	0.1
Rockfish, Calico	30	1	0.1
Croaker, White	31	1	0.1
Halibut, California	32	1	0.1
Flounder, Starry	33	1	0.1
Total		1371	100

C. CPUE

Catch per Angler Day = 11.15 Catch per Angler Hour = 5.39

Table 116. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Number Landed and Does Not Include Fish Returned Dead or Alive.

A. Sampled Effort

Number Anglers Intercepted = 123
 Total Hours Effort for Anglers Intercepted = 254.5

B. Ranked Catch

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Blue	1	276	22.5	0.25	70.22
Rockfish, Yellowtail	2	198	16.2	0.30	58.75
Rockfish, Widow	3	166	13.6	0.27	45.19
Rockfish, Swordspine	4	123	10.0	0.43	53.10
Mackerel, Pacific (Chub)	5	117	9.6	0.41	47.58
Rockfish, Rosy	6	68	5.6	0.21	14.33
Rockfish, Canary	7	39	3.2	0.55	21.43
Rockfish, Gopher	8	36	2.9	0.31	11.11
Rockfish, Starry	9	28	2.3	0.52	14.64
Rockfish, Olive	10	25	2.0	0.67	16.79
Rockfish, Brown	11	24	2.0	0.91	21.93
Rockfish, Copper	12	24	2.0	1.02	24.40
Rockfish, Black	13	17	1.4	0.31	5.34
Rockfish, Vermilion	14	15	1.2	1.13	17.00
Rockfish, Yelloweye	15	14	1.1	0.86	12.10
Rockfishes (general)	16	8	0.7	0.38**	3.04
Rockfish, Greenspotted	17	6	0.5	0.40	2.38
Rockfish, Flag	18	6	0.5	0.63	3.75
Rockfish, Greenstriped	19	5	0.4	0.21	1.06
Rockfish, Grass	20	5	0.4	1.56	7.80
Bocaccio	21	4	0.3	0.95	3.81
Rockfish, Black-and-yellow	22	4	0.3	0.45	1.80
Rockfish, Speckled	23	4	0.3	0.48	1.90
Rockfish, China	24	3	0.2	0.53	1.60
Rockfish, Kelp	25	3	0.2	0.40	1.20
Rockfish, Squarespot	26	2	0.2	0.20	0.40
Lingcod	27	2	0.2	2.00	4.00

(Table 116. - continued)

Common name	Rank by Number	Number Caught	% by Number	Mean Wt. (kg)*	Weight Caught
Rockfish, Calico	28	1	0.1	0.09	0.09
Croaker, White	29	1	0.1	0.97	0.97
Flounder, Starry	30	1	0.1	1.00	1.00
Total		1225	100		468.67

C. CPUE

Catch per Angler Day = 9.96 Catch per Angler Hour = 4.81
 Kg per Angler Day = 3.81 Kg per Angler Hour = 1.84

* Weight estimated from length-to-weight regression if available.

** Mean weight for this group was not calculated or was estimated from other sources (see text).

Table 117. Sampled Effort, Ranked Catch and CPUE for Area 5 in 1984 for Quarter 3, by All CPFV Anglers Using Hook-and-Line Gear. Catch Represents Only the Fish Examined by the Sampler.

A. Sampled Effort

Number Anglers Intercepted = 123
 Total Hours Effort for Anglers Intercepted = 254.5

B. Ranked Catch

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	----Mean----		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Rockfish, Blue	1	68.44	269	22.9	232	0.25	252	31
Rockfish, Yellowtail	2	58.75	198	16.9	161	0.30	271	35
Rockfish, Swordspine	3	52.66	122	10.4	93	0.43	280	28
Rockfish, Widow	4	45.19	166	14.2	107	0.27	278	29
Mackerel, Pacific (Chub)	5	33.75	83	7.1	80	0.41	312	24
Rockfish, Copper	6	24.40	24	2.0	24	1.02	368	70
Rockfish, Brown	7	21.93	24	2.0	24	0.91	368	46
Rockfish, Canary	8	21.43	39	3.3	39	0.55	325	60
Rockfish, Vermilion	9	17.00	15	1.3	15	1.13	397	81
Rockfish, Olive	10	16.79	25	2.1	25	0.67	348	92
Rockfish, Starry	11	14.64	28	2.4	28	0.52	312	42
Rockfish, Rosy	12	14.12	67	5.7	67	0.21	232	28
Rockfish, Yelloweye	13	12.10	14	1.2	14	0.86	348	76
Rockfish, Gopher	14	10.80	35	3.0	35	0.31	264	30
Rockfish, Grass	15	7.80	5	0.4	5	1.56	393	72
Rockfish, Black	16	5.34	17	1.4	17	0.31	272	27
Lingcod	17	4.00	2	0.2	2	2.00	568	30
Bocaccio	18	3.81	4	0.3	4	0.95	444	65
Rockfish, Flag	19	3.75	6	0.5	8	0.63	331	46
Rockfish, Greenspotted	20	2.38	6	0.5	6	0.40	286	42
Rockfish, Speckled	21	1.90	4	0.3	4	0.48	321	49
Rockfish, Black-and-yellow	22	1.80	4	0.3	4	0.45	283	25
Rockfish, China	23	1.60	3	0.3	3	0.53	311	17
Rockfish, Kelp	24	1.20	3	0.3	3	0.40	296	32
Rockfish, Greenstriped	25	1.06	5	0.4	5	0.21	264	24
Flounder, Starry	26	1.00	1	0.1	1	1.00	422	0

(Table 117. - continued)

Common name	Rank by Wt.	Weight* Caught	Number Caught	% by No.	No. Meas.	---Mean---		SD LN.
						Wt.* (kg)	Ln.** (mm)	
Croaker, White	27	0.97	1	0.1	1	0.97	435	0
Rockfish, Squarespot	28	0.40	2	0.2	2	0.20	243	15
Rockfish, Calico	29	0.09	1	0.1	1	0.09	195	0
Total		449.07	1173	100	1010			

C. CPUE***

Catch per Angler Day = 9.54 Catch per Angler Hour = 4.61
 Kg per Angler Day = 3.65 Kg per Angler Hour = 1.76

* Weight estimated from length-to-weight regression if available.

** Total length except for species with tuna-like caudal fins (see text).

*** CPUE is underestimated if all fish taken were not examined (see text).

Figure 26. Length-Frequency Histogram for Bocaccio
Taken by Pier or Dock Anglers Using Hook-and-Line Gear.
Area 5, Quarter 3, 1984.

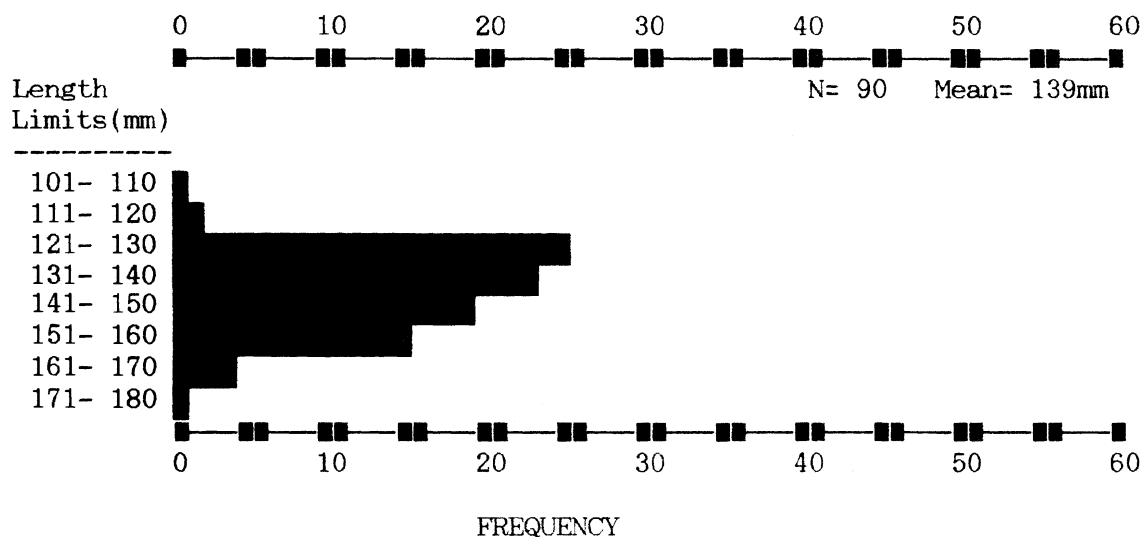


Figure 27. Length-Frequency Histogram for Pacific (Chub) Mackerel
Taken by Pier or Dock Anglers Using Hook-and-Line Gear.
Area 5, Quarter 3, 1984.

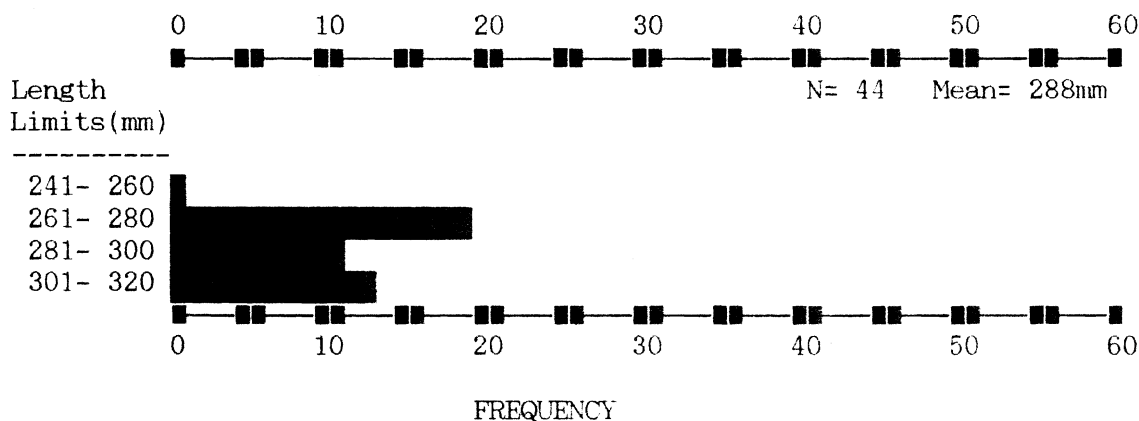


Figure 28. Length-Frequency Histogram for Pacific Bonito
Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
Area 5, Quarter 3, 1984.

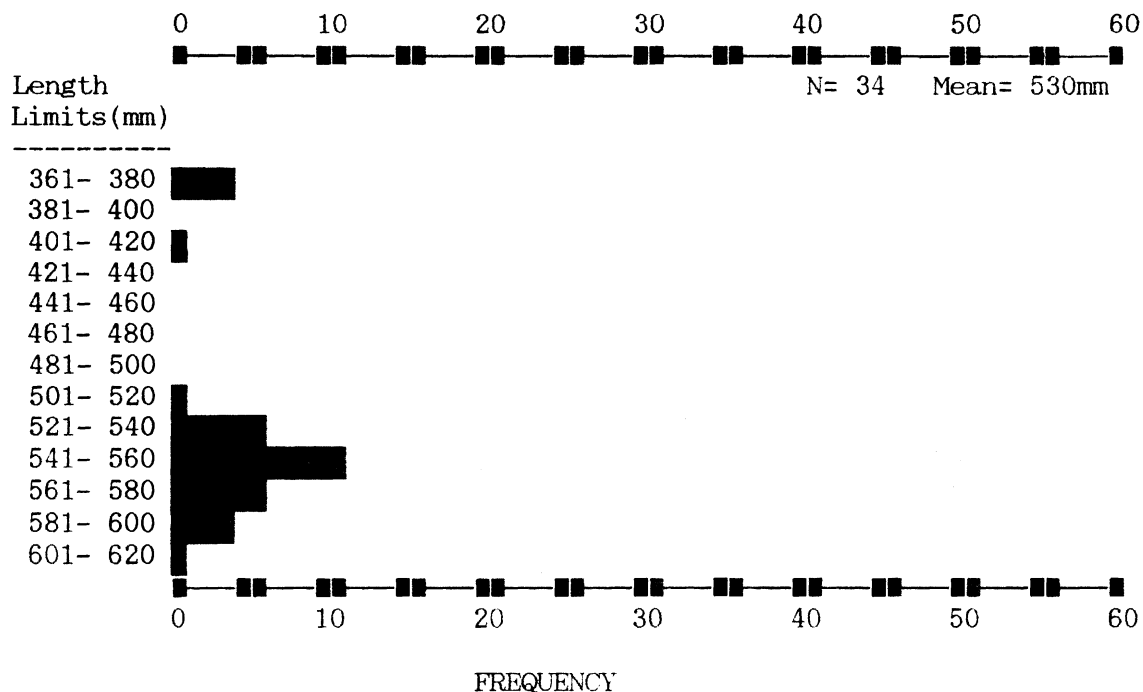


Figure 29. Length-Frequency Histogram for Pacific (Chub) Mackerel
Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
Area 5, Quarter 3, 1984.

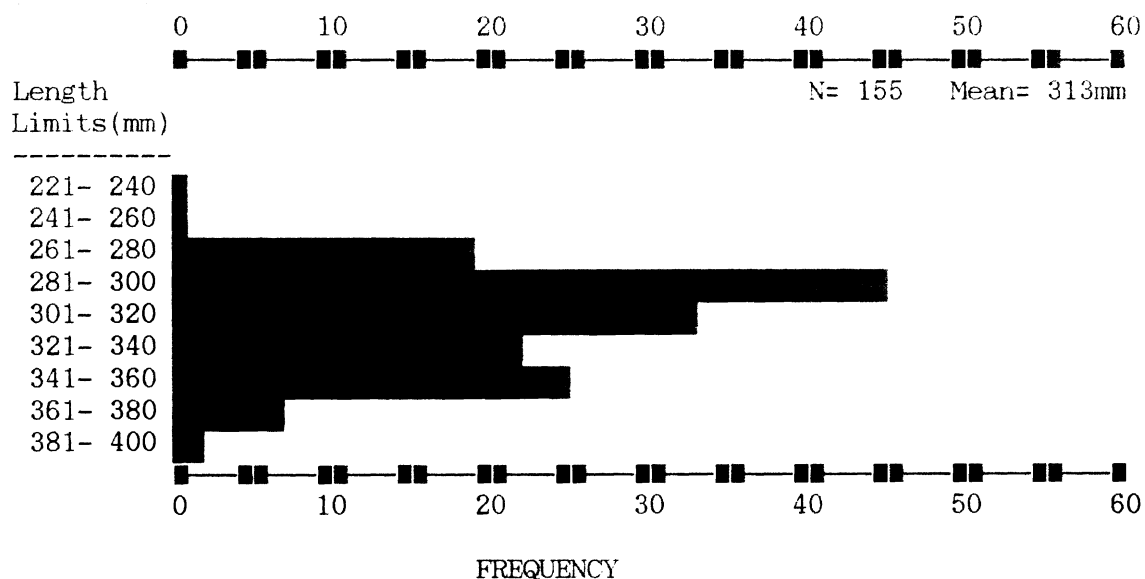


Figure 30. Length-Frequency Histogram for Black Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 3, 1984.

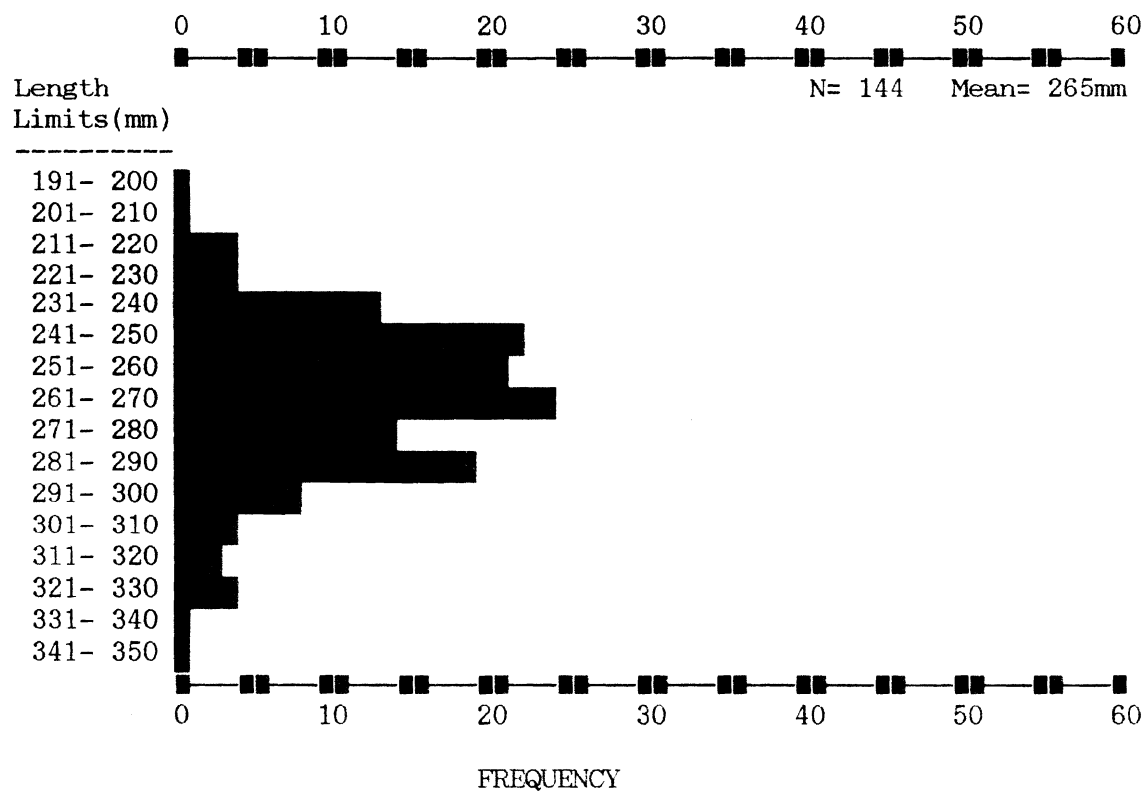


Figure 31. Length-Frequency Histogram for Blue Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 3, 1984.

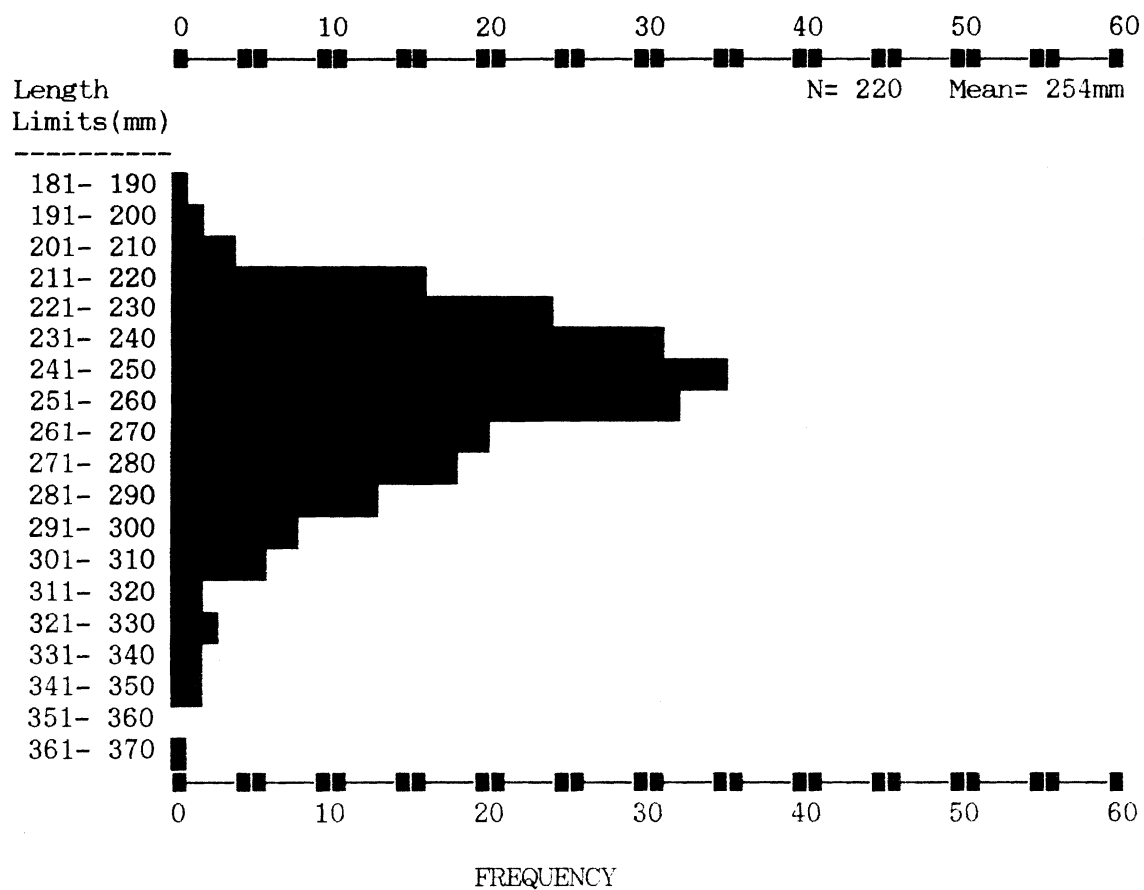


Figure 32. Length-Frequency Histogram for Gopher Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 3, 1984.

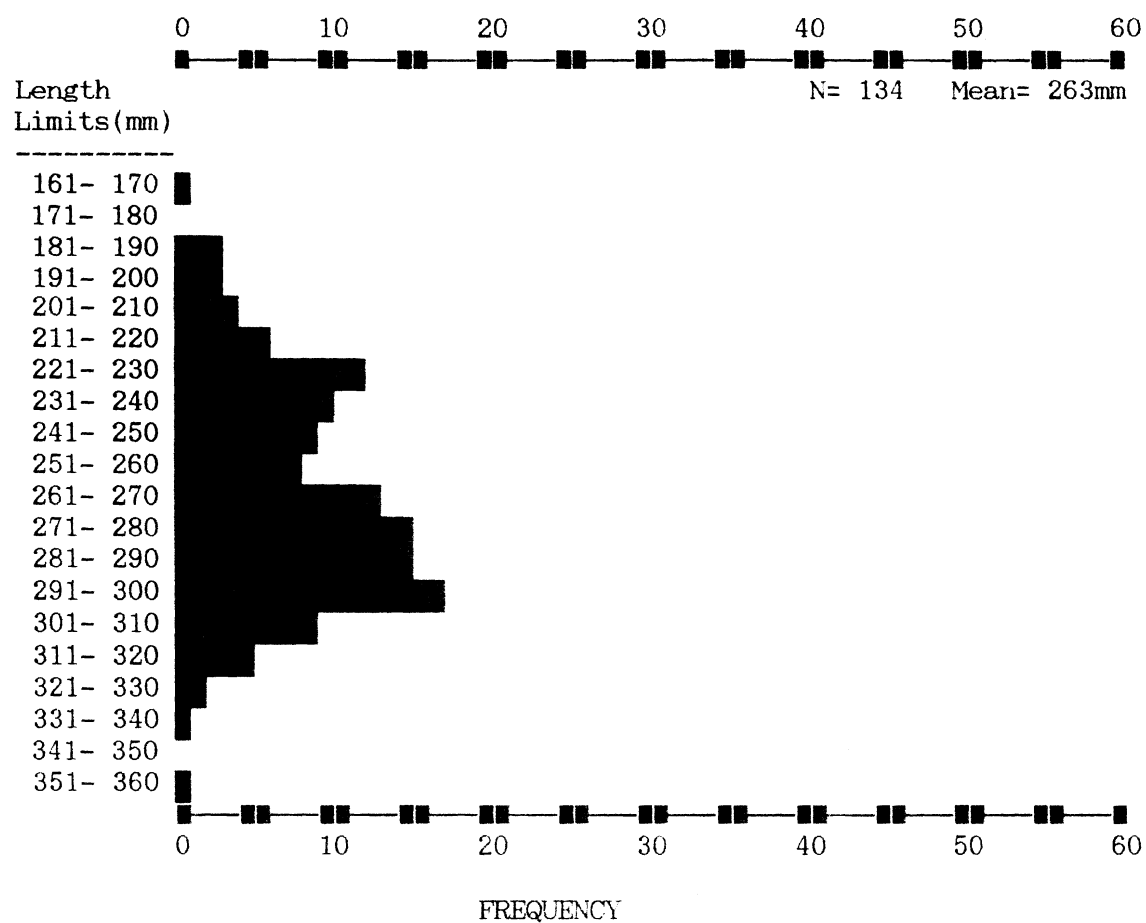


Figure 33. Length-Frequency Histogram for Olive Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 3, 1984.

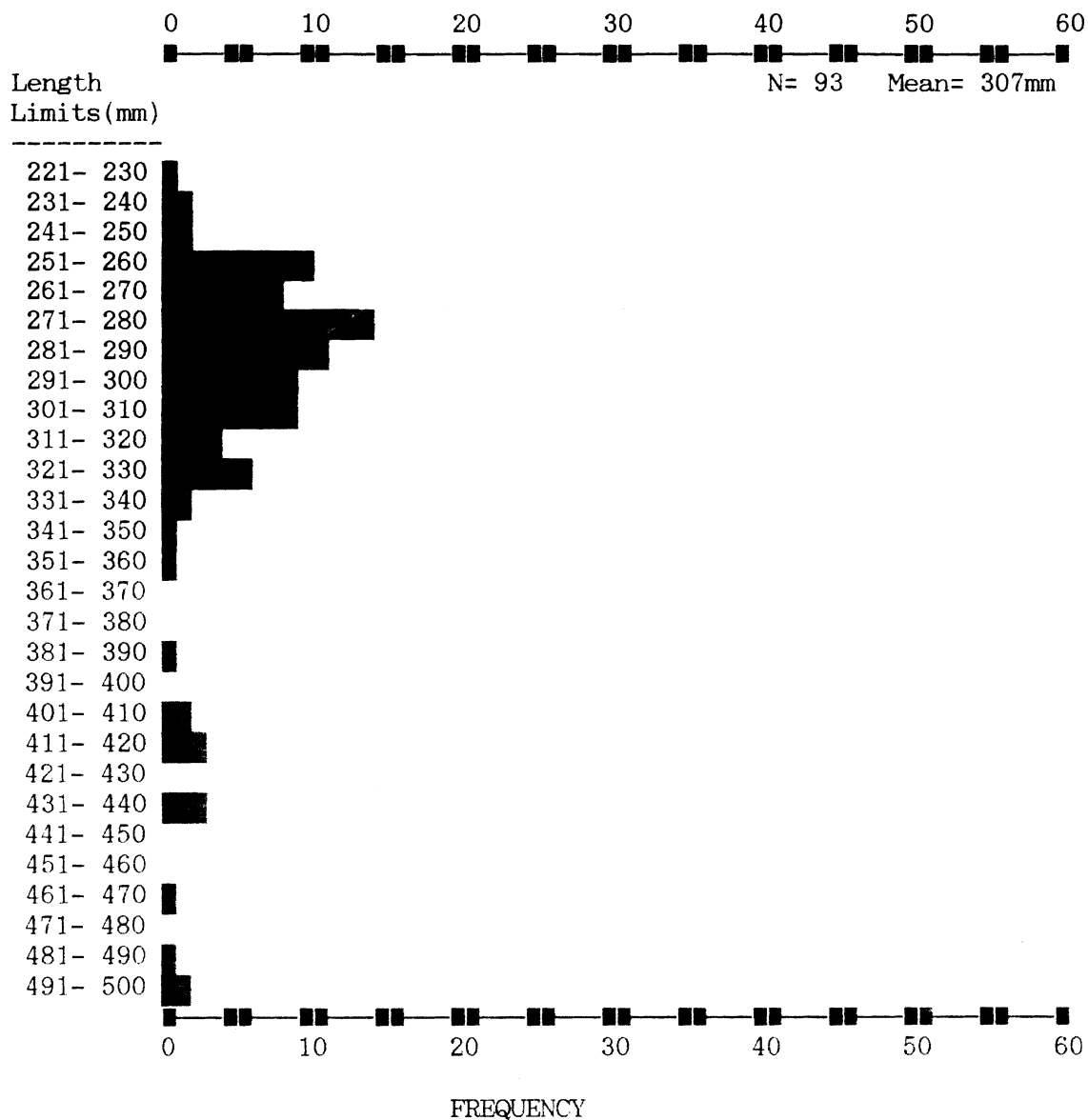


Figure 34. Length-Frequency Histogram for Swordspine Rockfish
 Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 3, 1984.

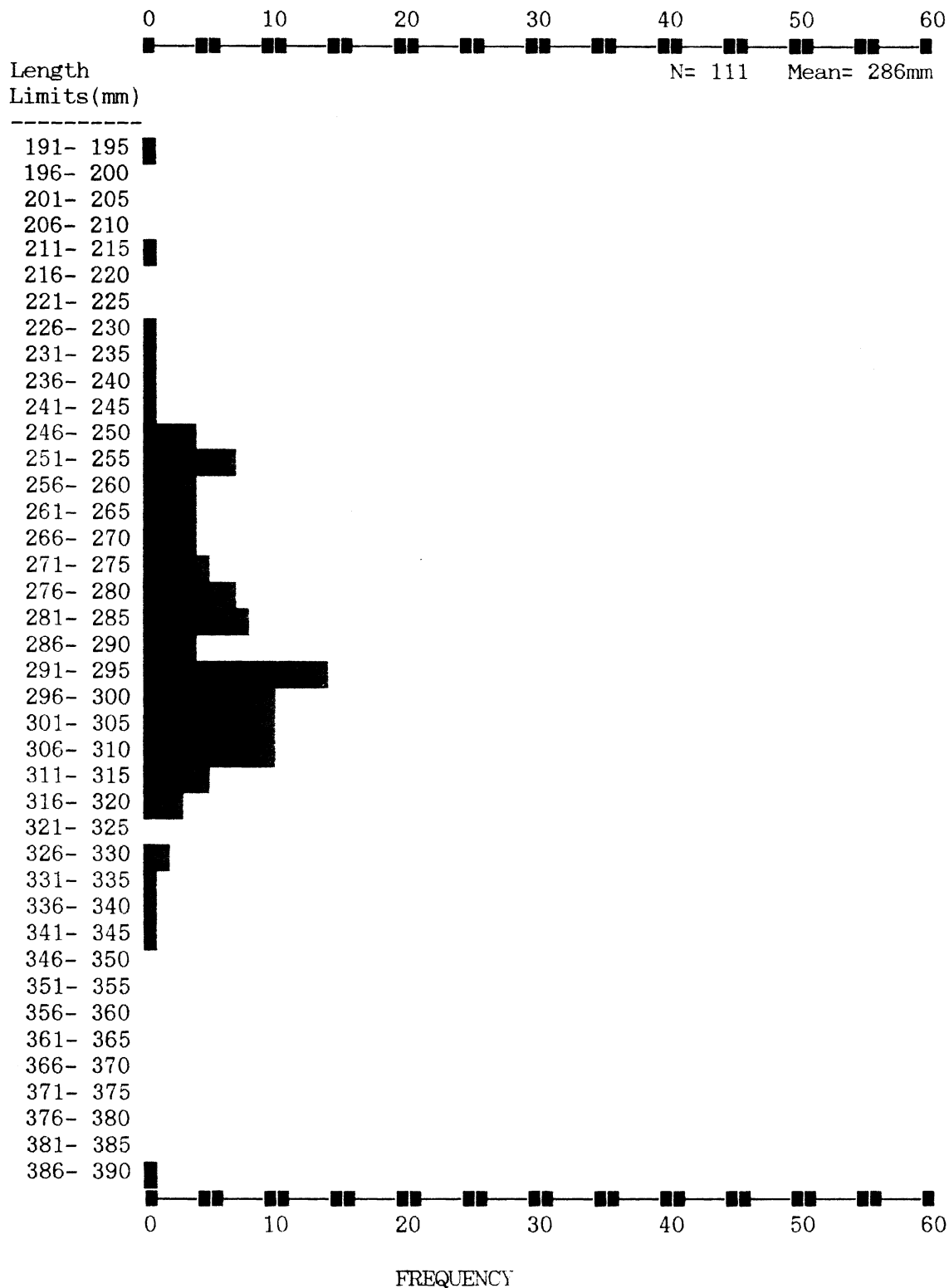


Figure 35. Length-Frequency Histogram for Yellowtail Rockfish
Taken by Private or Rental Boat Anglers Using Hook-and-Line Gear.
Area 5, Quarter 3, 1984.

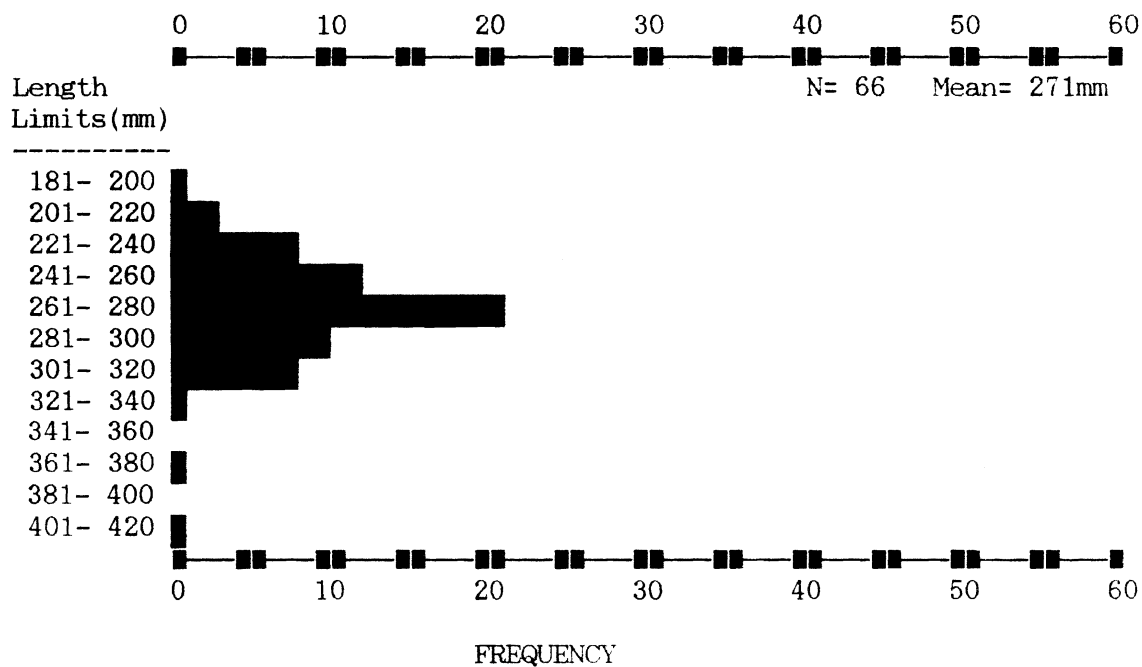


Figure 36. Length-Frequency Histogram for Pacific (Chub) Mackerel
Taken by All CPFV Anglers Using Hook-and-Line Gear.
Area 5, Quarter 3, 1984.

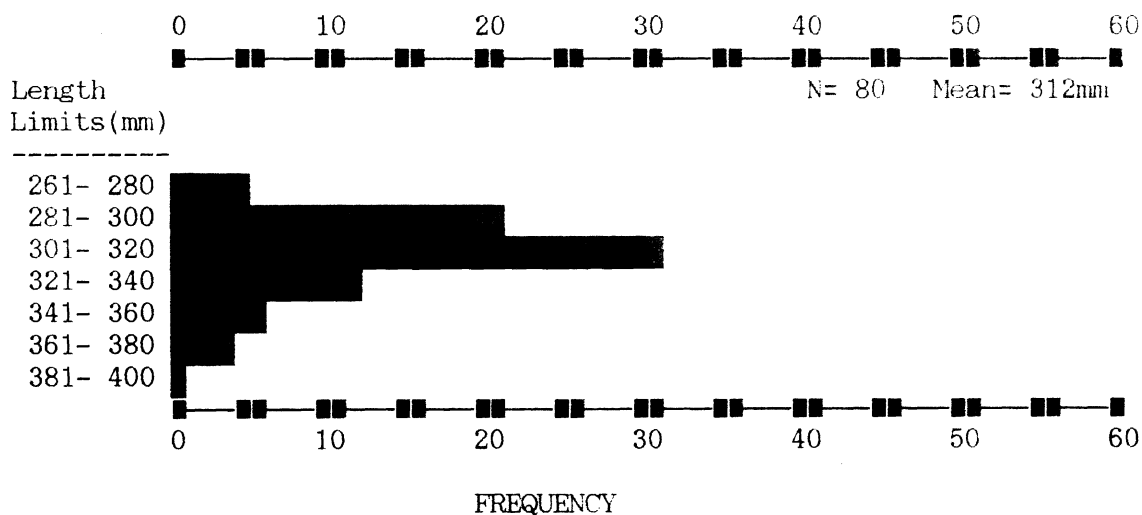


Figure 37. Length-Frequency Histogram for Blue Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 3, 1984.

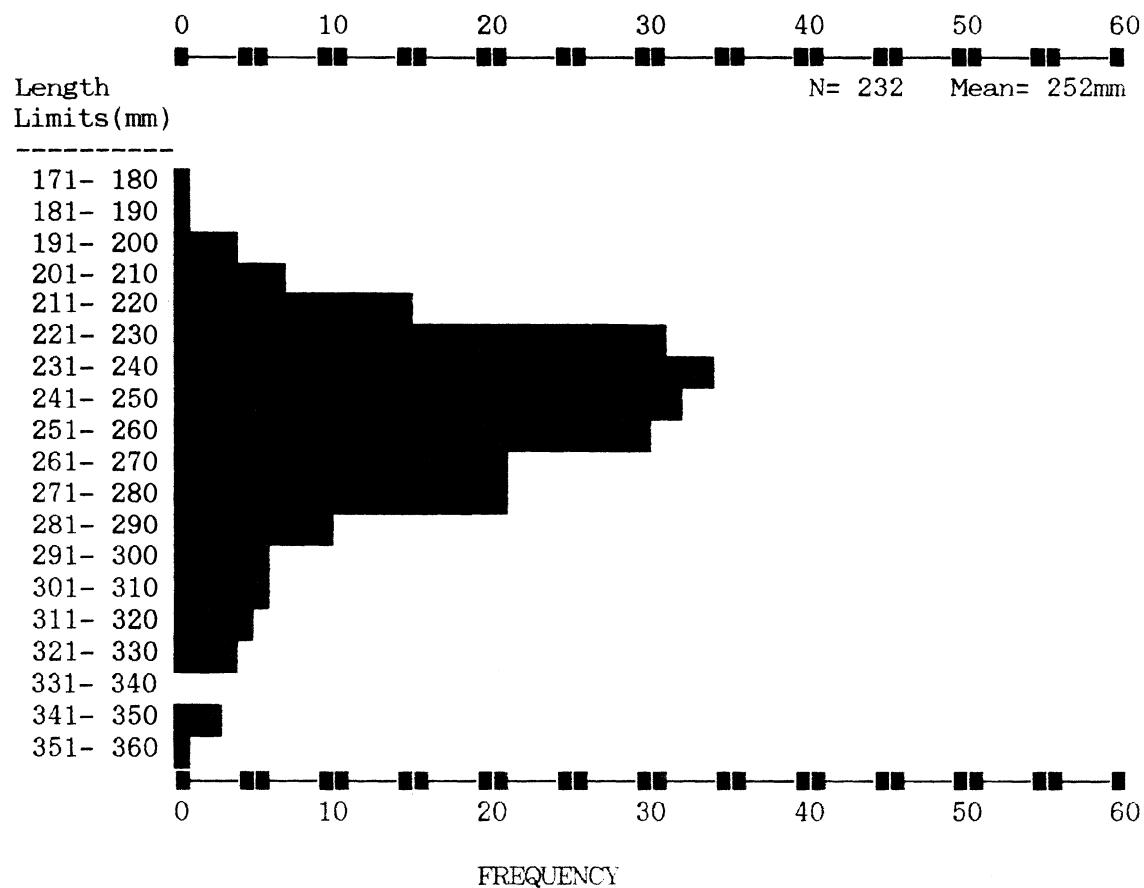


Figure 38. Length-Frequency Histogram for Rosy Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 3, 1984.

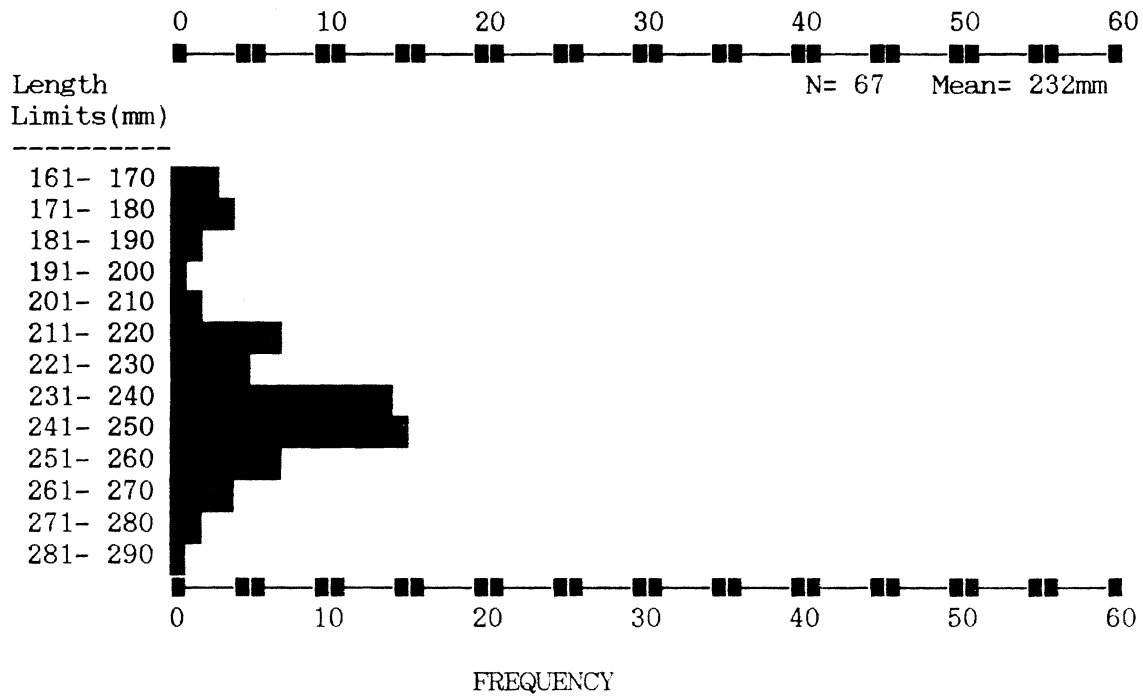


Figure 39. Length-Frequency Histogram for Swordspine Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 3, 1984.

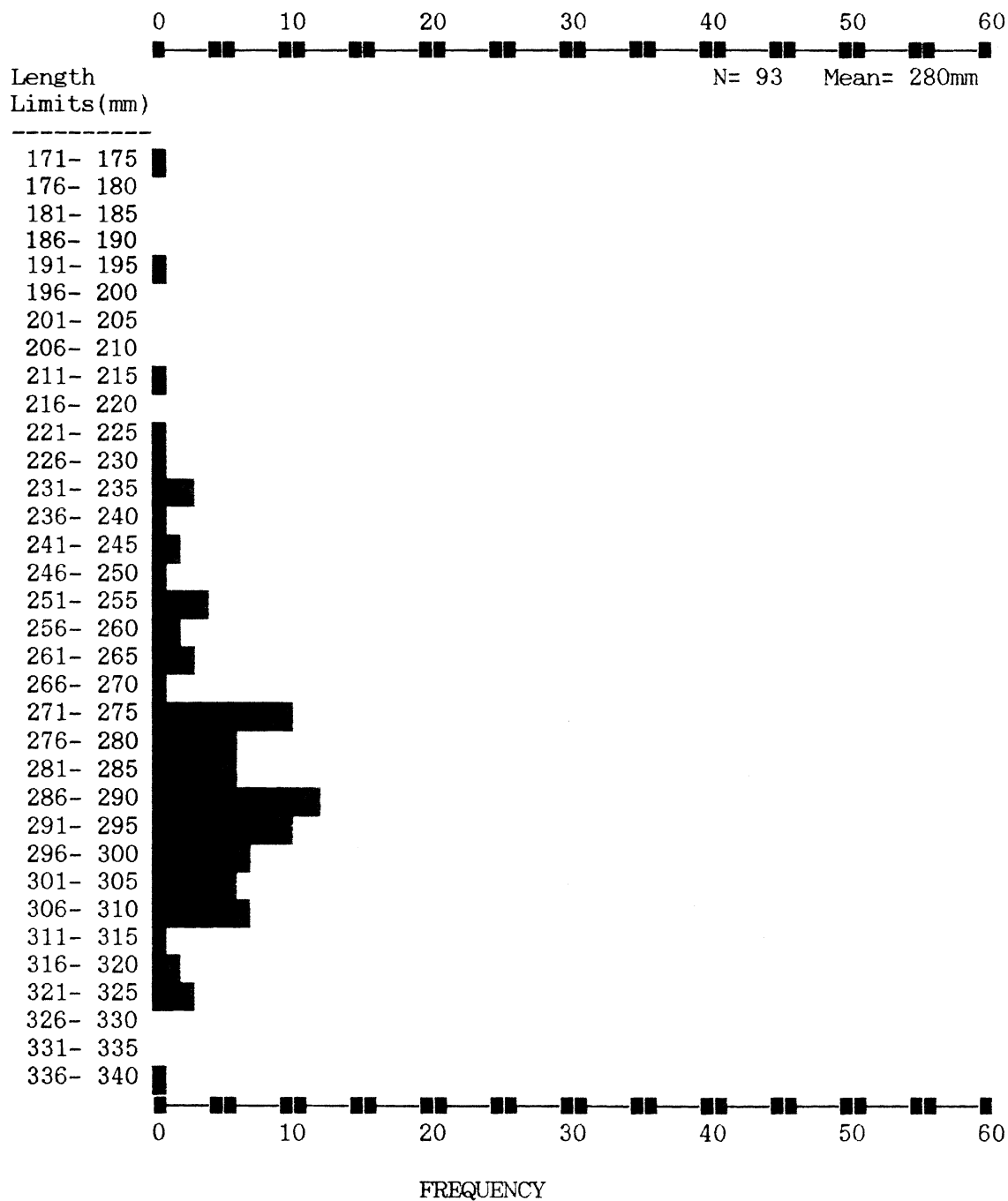


Figure 40. Length-Frequency Histogram for Widow Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 3, 1984.

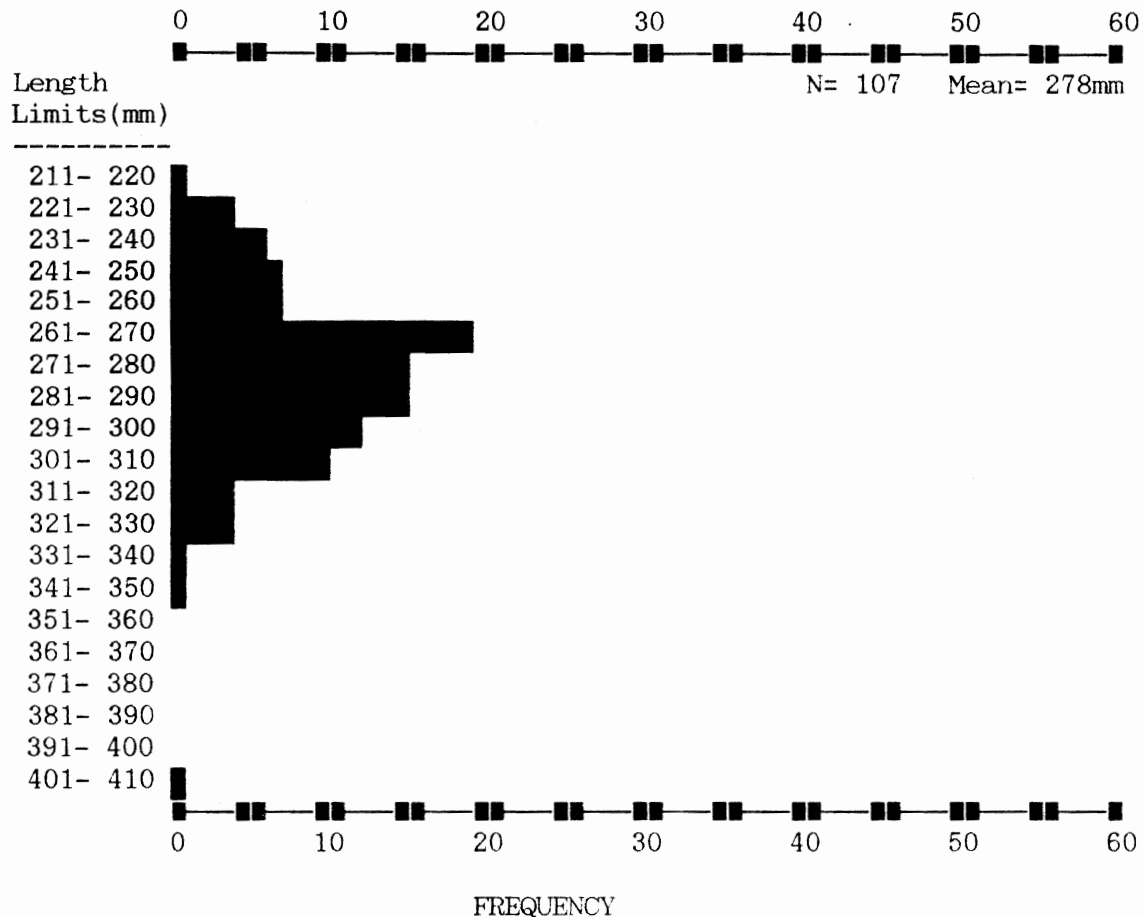
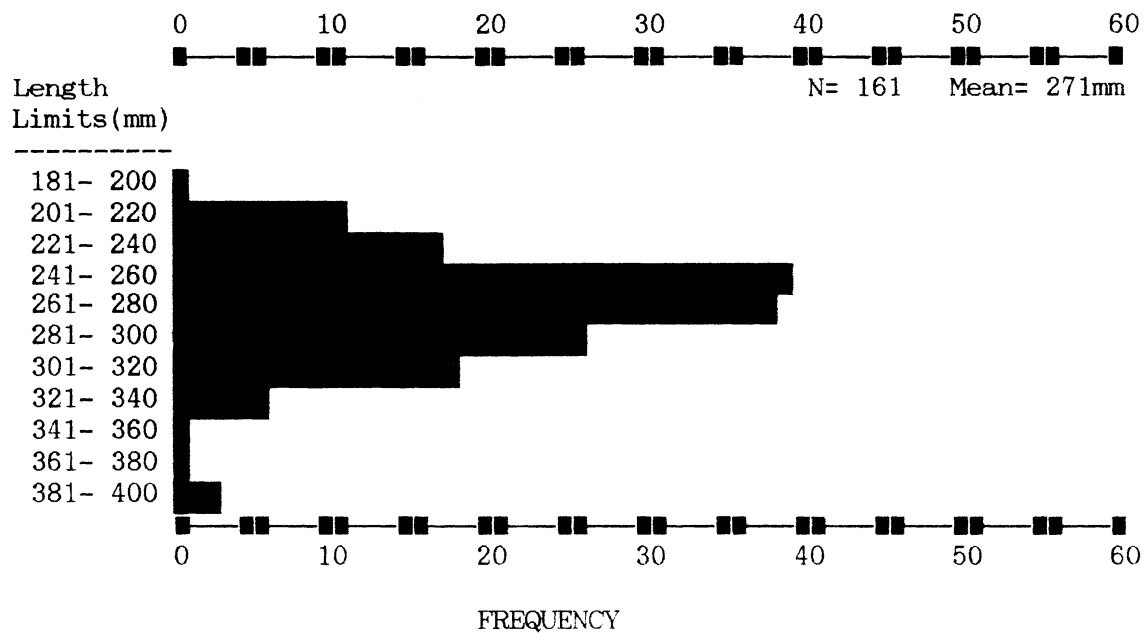


Figure 41. Length-Frequency Histogram for Yellowtail Rockfish
 Taken by All CPFV Anglers Using Hook-and-Line Gear.
 Area 5, Quarter 3, 1984.



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APPENDIX A

Pages 172 to 338 are on the attached microfiche on inside of back cover.

Appendix B. List of Common Names, Scientific Names, and Length-Weight Parameters from All Areas in 1984 for Quarter 3, Taken by All Mode Anglers Using All Types of Gear.

Common Name	Scientific Name	a	b
Goby, Yellowfin	<u>Acanthogobius flavimanus</u>	0.00001360000	2.89000
Sturgeon, White	<u>Acipenser transmontanus</u>	0.00000053086	3.34800
Sturgeons (general)	Acipenseridae		
Thresher, Common	<u>Alopias vulpinus</u>	0.00000082655	3.20000
Surfperch, Barred	<u>Amphistichus argenteus</u>	0.00001070000	3.10250
Surfperch, Calico	<u>Amphistichus koelzi</u>	0.00000469894	3.22700
Surfperch, Redtail	<u>Amphistichus rhodoterus</u>	0.00000469894	3.22700
Wolf-eel	<u>Anarrhichthys ocellatus</u>	0.00000502500	3.09100
Sablefish	<u>Anoplopoma fimbria</u>	0.00002248980	2.84080
Jacksmelt	<u>Atherinopsis californiensis</u>	0.00000098820	3.35360
Seabass, White	<u>Atractoscion nobilis</u>	0.00001549000	2.92167
Flounders, Lefteye	Bothidae		
Bottomfishes (Groundfishes)	Bottom Pisces (Groundfishes)		
Perch, Kelp	<u>Brachyistius frenatus</u>		
Whitefish, Ocean	<u>Caulolatilus princeps</u>	0.00000304000	3.22000
Prickleback, Monkeyface	<u>Cebidichthys violaceus</u>	0.00000000000	0.00000
Sharks	Chondrichthyes		
Sanddab, Pacific	<u>Citharichthys sordidus</u>	0.00000142860	3.37080
Sandabs	<u>Citharichthys spp.</u>	0.00000266000	3.29530
Sanddab, Speckled	<u>Citharichthys stigmaeus</u>	0.00000266000	3.29530
Clinids	Clinidae		
Sculpins	Cottidae		
Perch, Shiner	<u>Cymatogaster aggregata</u>	0.00000473500	3.21000
Stingrays	Dasyatidae		
Stingray, Pelagic	<u>Dasyatis violacea</u>		
Perch, Black	<u>Embiotoca jacksoni</u>	0.00029100000	2.49640
Seaperch, Striped	<u>Embiotoca lateralis</u>	0.00001540000	3.01000
Surfperches	Embiotocidae		
Anchovy, Northern	<u>Engraulis mordax</u>	0.00000560100	2.98400
Sculpin, Buffalo	<u>Enophrys bison</u>	0.00001790000	2.89600
Sole, Petrale	<u>Eopsetta jordani</u>	0.00000305800	3.23950
Shark, Soupfin	<u>Galeorhinus zyopterus</u>		
Croaker, White	<u>Genyonemus lineatus</u>	0.00000708500	3.08328
Kelpfish, Striped	<u>Gibbonsia metzi</u>	0.00000000000	0.00000
Gobies	Gobiidae		
Irish Lord, Brown	<u>Hemilepidotus spinosus</u>	0.00003580000	2.90000
Greenlings (general)	Hexagrammidae		
Greenling, Kelp	<u>Hexagrammos decagrammus</u>	0.00002604300	2.89280
Greenling, Rock	<u>Hexagrammos lagocephalus</u>	0.00002604300	2.89280
Surfperch, Walleye	<u>Hyperprosopon argenteum</u>	0.00000035580	3.71700
Surfperch, Silver	<u>Hyperprosopon ellipticum</u>	0.00000469894	3.22700
Smelt, Surf	<u>Hypomesus pretiosus</u>	0.00000086900	3.38600
Seaperch, Rainbow	<u>Hypsurus caryi</u>	0.00001535000	3.00700
Sole, Rock	<u>Lepidopsetta bilineata</u>	0.00000760300	3.09570
Sculpin, Pacific Staghorn	<u>Leptocottus armatus</u>	0.00001790000	2.89600
Hake, Pacific	<u>Merluccius productus</u>	0.00000633000	3.03000
Sunfish, Ocean	<u>Mola mola</u>	0.00000000000	0.00000
Bass, Striped	<u>Morone saxatilis</u>	0.00001068210	2.90671

APPENDIX B (continued)

Common Name	Scientific Name	a	b
Smoothhound, Gray	<u>Mustelus californicus</u>	0.00002089000	2.88000
Smoothhound, Brown	<u>Mustelus henlei</u>	0.00002089000	2.88000
Ray, Bat	<u>Myliobatis californica</u>	0.00001054400	3.09289
Fringehead, Onespot	<u>Neoclinus uninotatus</u>	0.00000000000	0.00000
Salmon, Coho (Silver)	<u>Oncorhynchus kisutch</u>	0.00000944000	3.00000
Salmon	<u>Oncorhynchus spp.</u>	0.00000944000	3.00000
Salmon, Chinook (King)	<u>Oncorhynchus tshawytscha</u>	0.00000944000	3.00000
Lingcod	<u>Ophiodon elongatus</u>	0.00001157000	2.99000
Senorita	<u>Oxyjulis californica</u>	0.00000450000	3.16000
Bass, Kelp	<u>Paralabrax clathratus</u>	0.00000271598	3.27000
Sand bass, Barred	<u>Paralabrax nebulifer</u>	0.00000684400	3.11289
Halibut, California	<u>Paralichthys californicus</u>	0.00000849000	3.03300
Seaperch, Sharpnose	<u>Phanerodon atripes</u>	0.00001370000	2.98000
Seaperch, White	<u>Phanerodon furcatus</u>	0.00001366000	2.97800
Flounder, Starry	<u>Platichthys stellatus</u>	0.00000163000	3.34000
Flounders, Righteye	Pleuronectidae		
Shark, Blue	<u>Prionace glauca</u>	0.00000082655	3.20000
Sole, Sand	<u>Psettichthys melanostictus</u>	0.00000277100	3.26480
Skate, Big	<u>Raja binoculata</u>	0.00002428050	2.85496
Skates	Rajidae		
Seaperch, Rubberlip	<u>Rhacochilus toxotes</u>	0.00003220500	2.90840
Perch, Pile	<u>Rhacochilus vacca</u>	0.00000925500	3.09900
Guitarfish, Shovelnose	<u>Rhinobatos productus</u>	0.00000510900	2.96780
Bonito, Pacific	<u>Sarda chiliensis</u>	0.00000762700	3.08960
Mackerel, Pacific (Chub)	<u>Scomber japonicus</u>	0.00000136600	3.39360
Cabezon	<u>Scorpaenichthys marmoratus</u>	0.00008823220	2.72030
Rockfishes (unidentified)	Scorpaenidae		
Rockfish, Kelp	<u>Sebastes atrovirens</u>	0.00003277410	2.86200
Rockfish, Brown	<u>Sebastes auriculatus</u>	0.00002601290	2.93360
Rockfish, Gopher	<u>Sebastes carnatus</u>	0.00002047310	2.95730
Rockfish, Copper	<u>Sebastes caurinus</u>	0.00001648140	3.01800
Rockfish, Greenspotted	<u>Sebastes chlorostictus</u>	0.00002047310	2.95730
Rockfish, Black-and-yellow	<u>Sebastes chrysomelas</u>	0.00000446010	3.25650
Rockfish, Starry	<u>Sebastes constellatus</u>	0.00000531230	3.19500
Rockfish, Calico	<u>Sebastes dalli</u>	0.00000443100	3.18200
Rockfish, Greenstriped	<u>Sebastes elongatus</u>	0.00000475820	3.15310
Rockfish, Swordspine	<u>Sebastes ensifer</u>	0.00000446010	3.25650
Rockfish, Widow	<u>Sebastes entomelas</u>	0.00000291200	3.25430
Rockfish, Yellowtail	<u>Sebastes flavidus</u>	0.00001130400	3.04020
Chilipepper	<u>Sebastes goodei</u>	0.00000283950	3.24380
Rockfish, Rosethorn	<u>Sebastes helvomaculatus</u>	0.00001678550	2.99430
Rockfish, Squarespot	<u>Sebastes hopkinsi</u>	0.00000324000	3.25050
Cowcod	<u>Sebastes levis</u>	0.00001851570	2.98070
Rockfish, Quillback	<u>Sebastes maliger</u>	0.00003000000	2.93000
Rockfish, Black	<u>Sebastes melanops</u>	0.00001965710	2.95480
Rockfish, Vermilion	<u>Sebastes miniatus</u>	0.00002677000	2.91650
Rockfish, Blue	<u>Sebastes mystinus</u>	0.00001624670	2.98849
Rockfish, China	<u>Sebastes nebulosus</u>	0.00000564040	3.20470
Rockfish, Speckled	<u>Sebastes ovalis</u>	0.00000324000	3.25050

APPENDIX B (continued)

Common Name	Scientific Name	a	b
Bocaccio	<u>Sebastes paucispinis</u>	0.00000583320	3.09410
Rockfish, Canary	<u>Sebastes pinniger</u>	0.00001051000	3.05560
Rockfish, Grass	<u>Sebastes rastrelliger</u>	0.00000575900	3.23500
Rockfish, Rosy	<u>Sebastes rosaceus</u>	0.00001678900	2.99430
Rockfish, Yelloweye	<u>Sebastes ruberrimus</u>	0.00001304370	3.05710
Rockfish, Flag	<u>Sebastes rubrivinctus</u>	0.00002346750	2.94310
Rockfish, Stripetail	<u>Sebastes saxicola</u>	0.00000706700	3.12010
Rockfish, Olive	<u>Sebastes serranoides</u>	0.00000521020	3.15410
Rockfishes (general)	<u>Sebastes spp.</u>		
Thornyhead, Shortspine	<u>Sebastolobus alascanus</u>	0.00001406040	3.06300
Queenfish	<u>Seriphus politus</u>	0.00001549000	2.92200
Barracuda, Pacific	<u>Sphyraena argentea</u>	0.00000412016	2.98300
Smelt, Night	<u>Spirinchus starksi</u>	0.00000086900	3.38600
Spiny Dogfish	<u>Squalus acanthias</u>	0.00000189000	3.09000
Lizardfish, California	<u>Synodus lucioceps</u>	0.00000331000	3.16000
Tuna, Albacore	<u>Thunnus alalunga</u>	0.00002263900	2.98800
Electric Ray, Pacific	<u>Torpedo californica</u>		
Jack Mackerel	<u>Trachurus symmetricus</u>	0.00000331000	3.22320
Shark, Leopard	<u>Triakis semifasciata</u>	0.00002089000	2.88000
Unidentified Fishes	Unidentified Pisces		
Prickleback, Rock	<u>Xiphister mucosus</u>	0.00000000000	0.00000